STEREO AUDIO SYSTEM

UD-300

SERVICE MANUAL

(A-A3/X-A3/LS-A3)

KENWOOD

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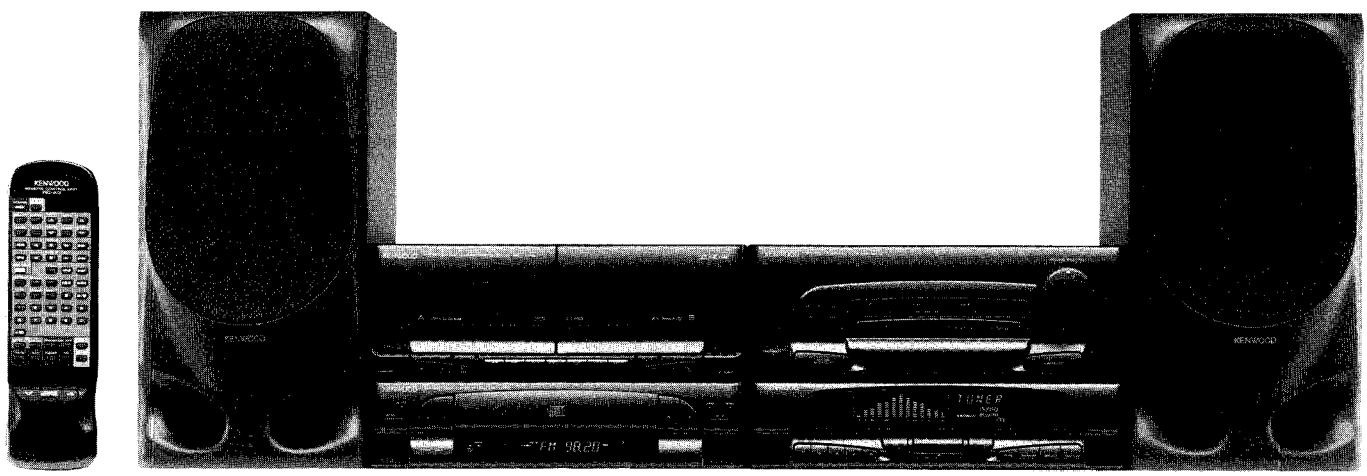
B51-4496-00(S)4074



Precautions when performing repairs.

(1) If you want to power on X-A3 without A-A3 need power supply jig (RM-90PS). Power-on procedure is written on page 25 (USE TEST MODE).

(2) Do not look directly at the laser beam while repairing the CD Player.

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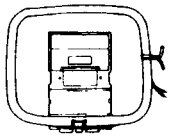
ACCESSORIES

- AM loop antenna ... 1

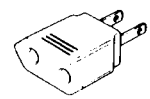


(T90-0174-05)

- FM indoor antenna ... 1

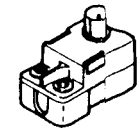
(T90-0175-05)

- AC plug adaptor ... 1
(Except for some areas)



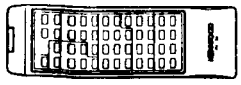
(E03-0115-05)M

- Antenna adaptor ... 1
(75 Ω/300 Ω)
(Except for some areas)



(T90-0185-05) T,E

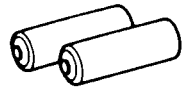
- Remote control unit ... 1



(X94-1010-11)

BATTERY COVER
(A09-0126-03)

- Batteries (R06/AA) ... 2



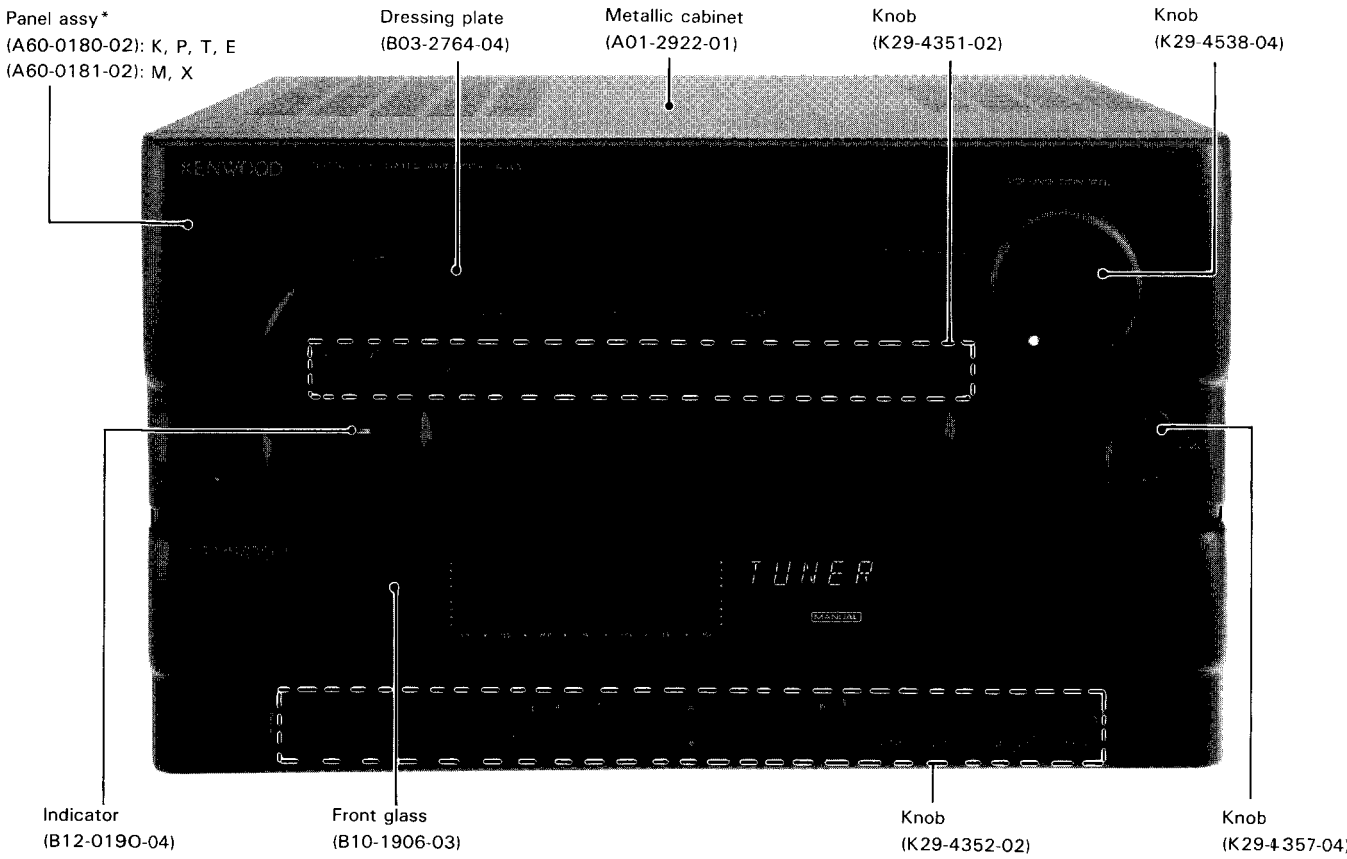
INSTRUCTION MANUAL

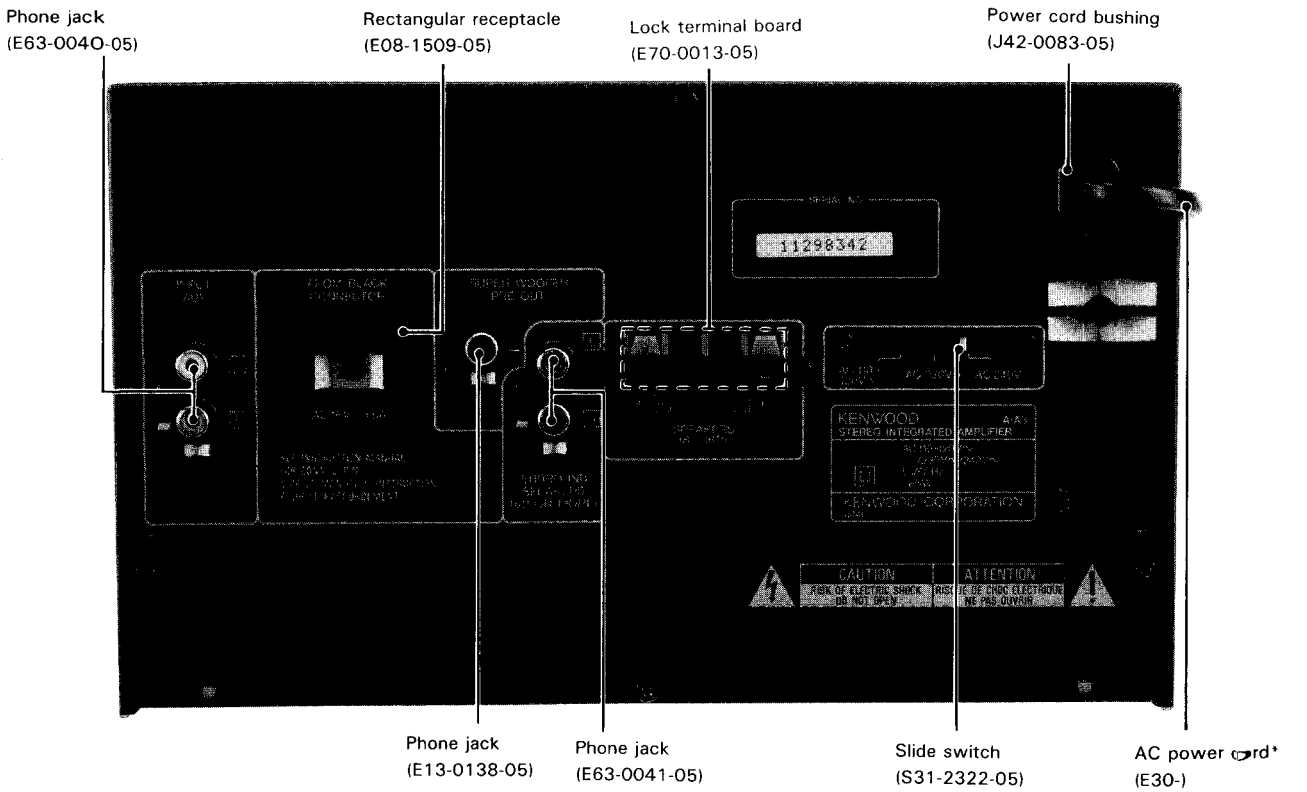
B60-0751-00 (ENGLISH)	B60-0755-00 (ITA) E
B60-0752-00 (FRE) P,E	B60-0756-00 (CHI) M
B60-0753-00 (GER) E	B60-0757-00 (SPA) M,E
B60-0754-00 (JAP) E	B60-0758-00 (ARA) M

Antenna holder

(J19-2815-04)

AMPLIFIER (A-A3)





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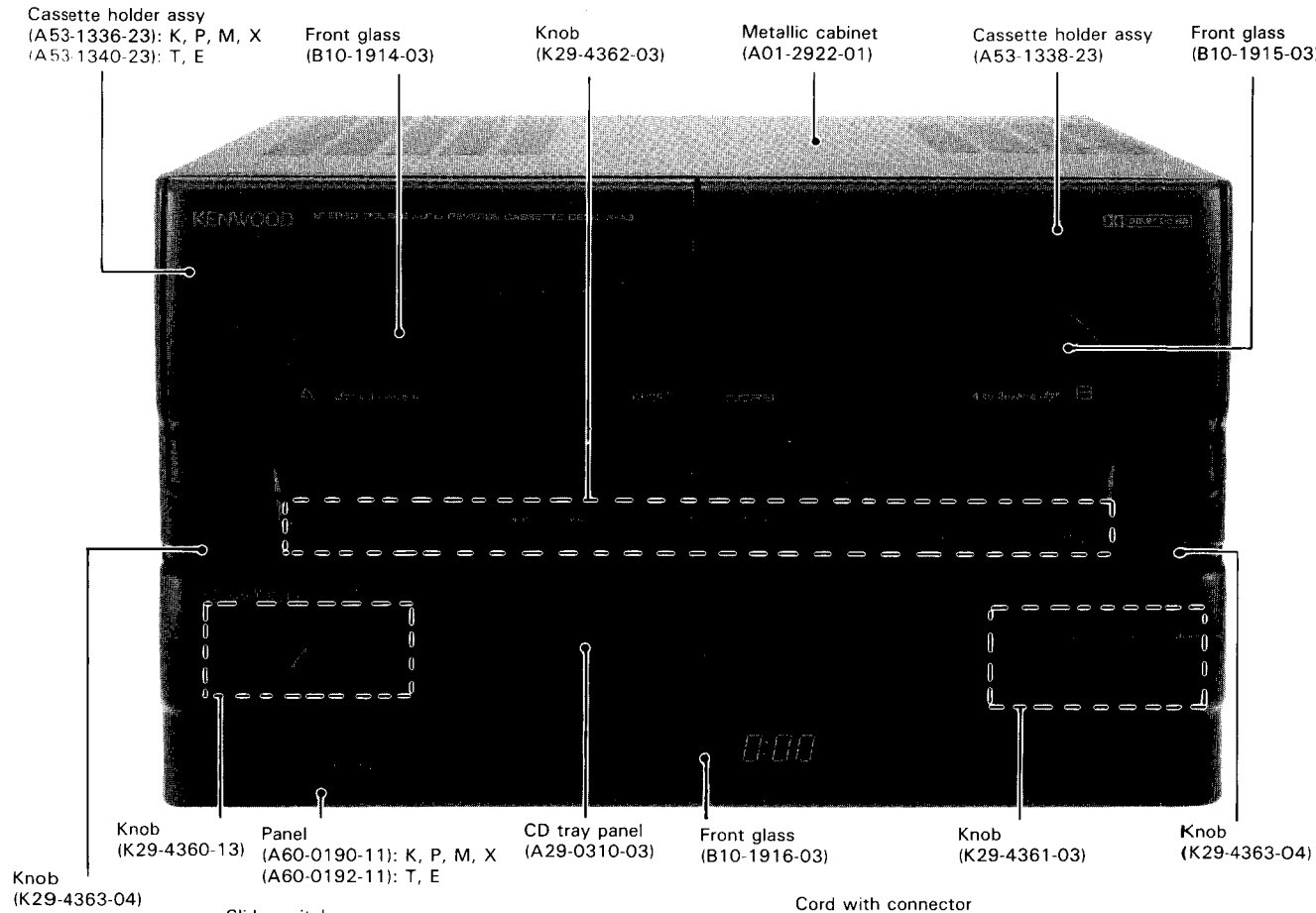
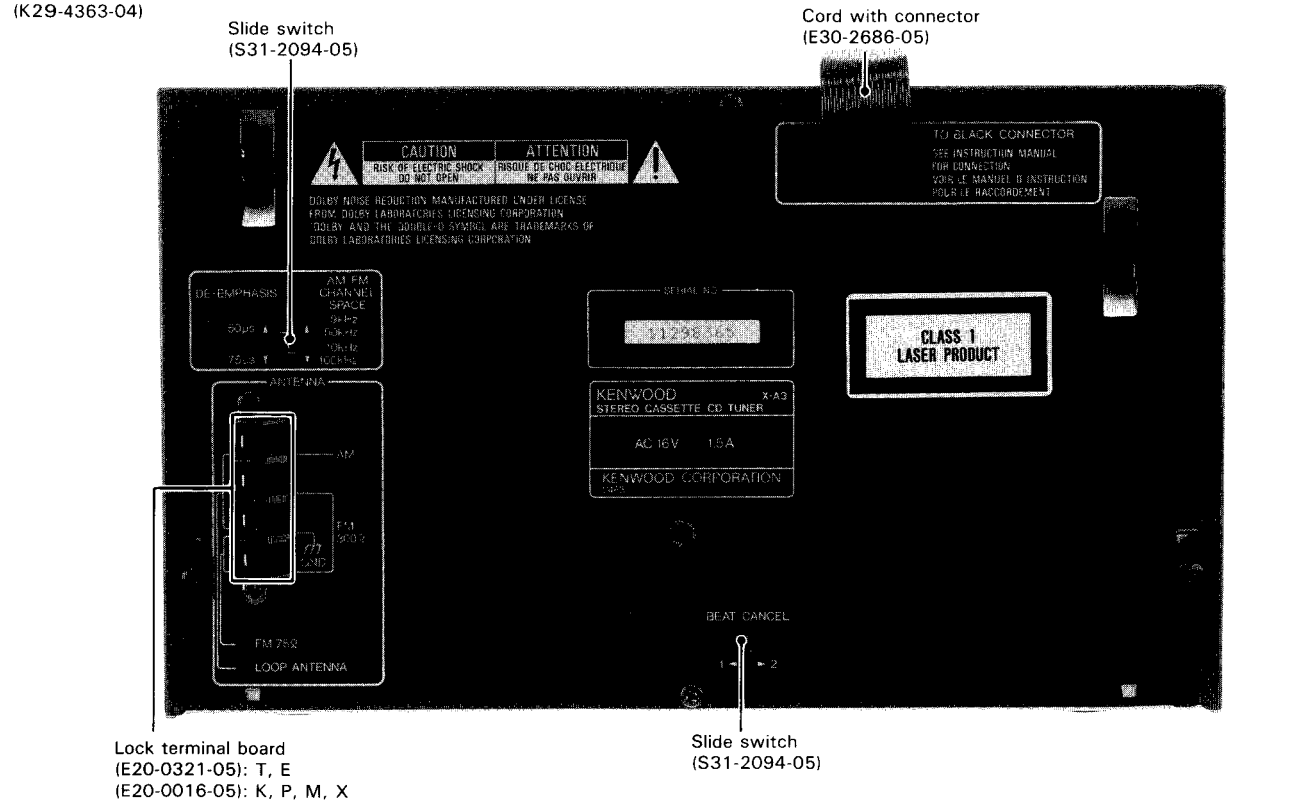
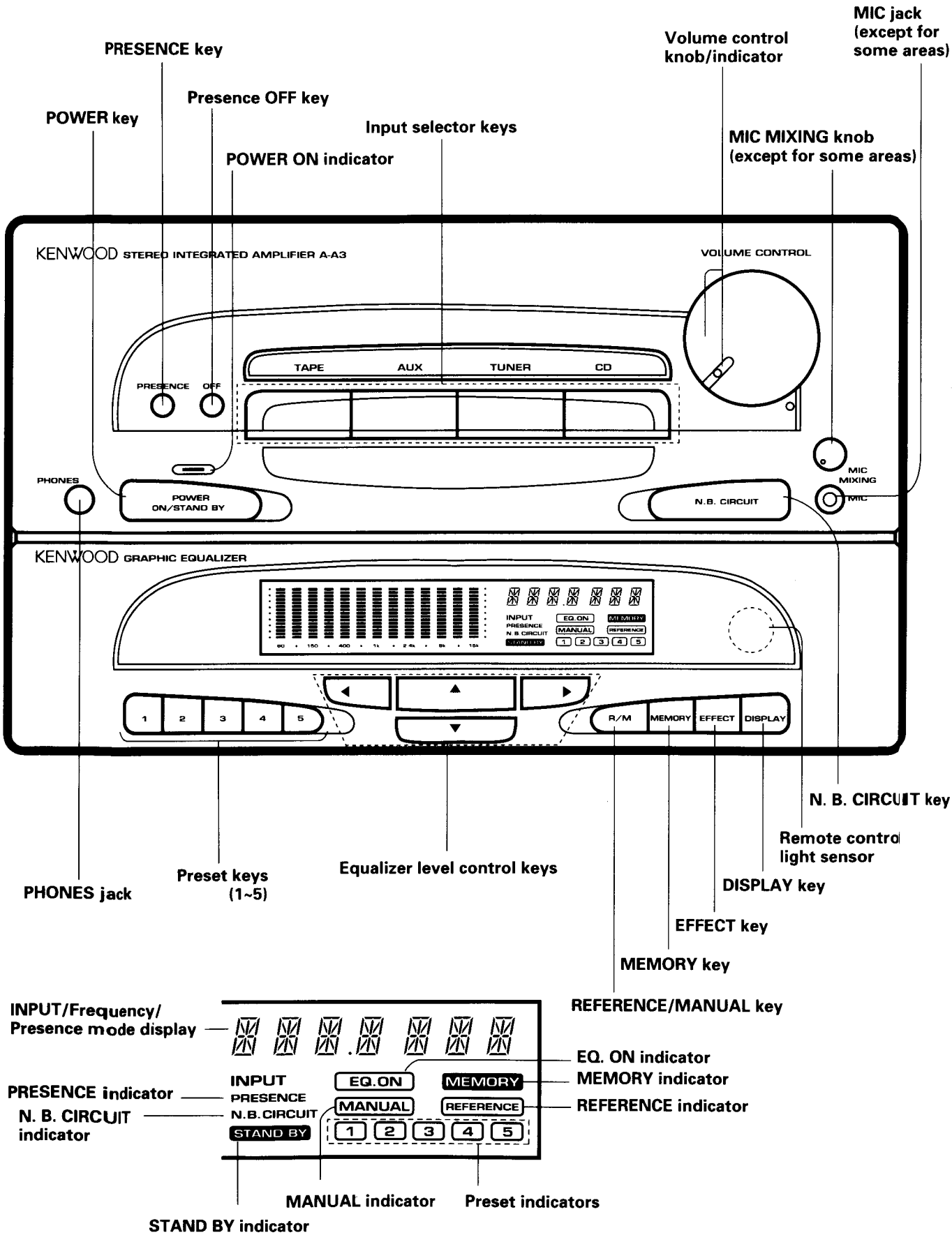
CD TUNER (X-A3)





CONTROLS & INDICATORS

■ Amplifier/Graphic equalizer unit



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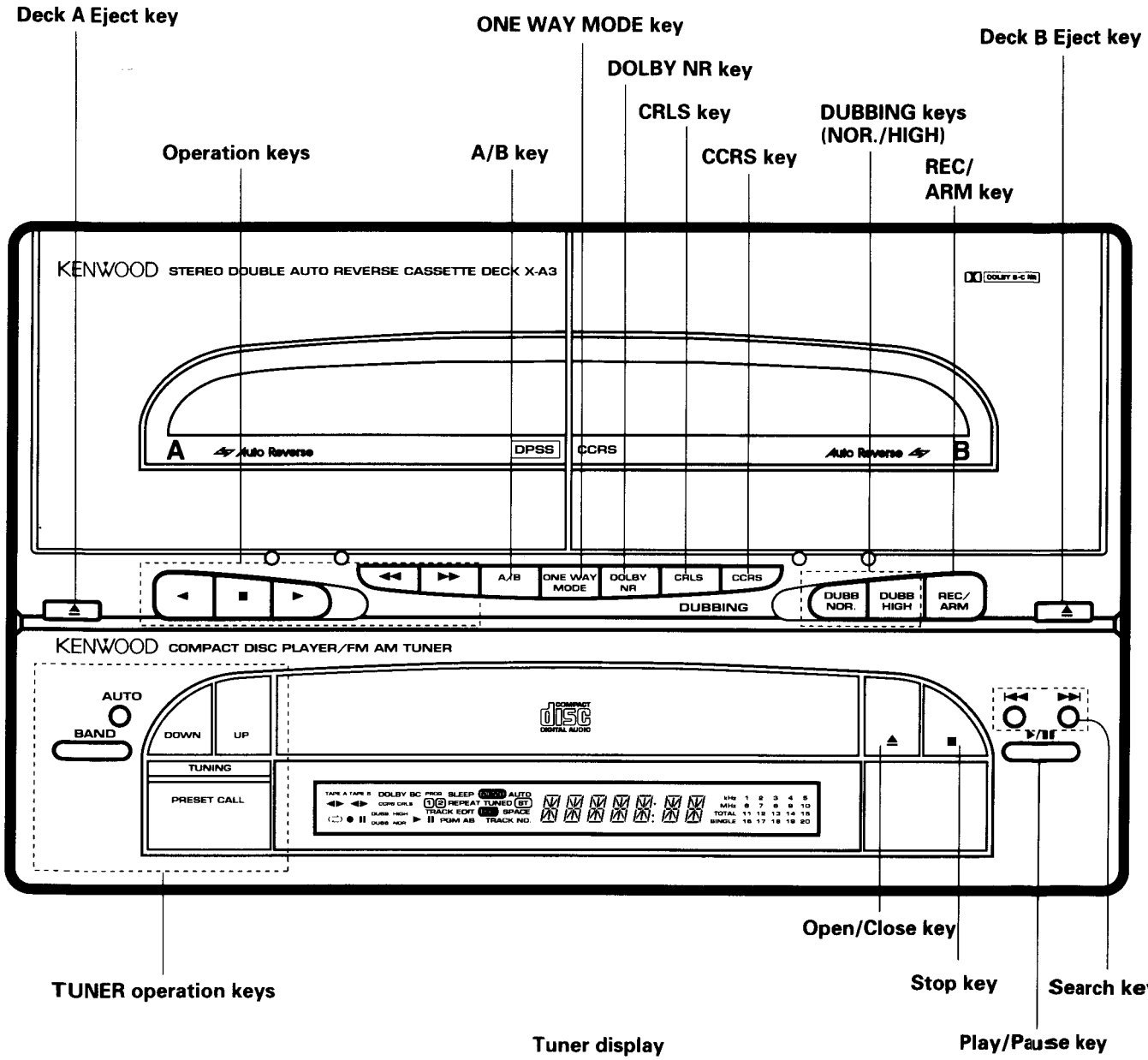
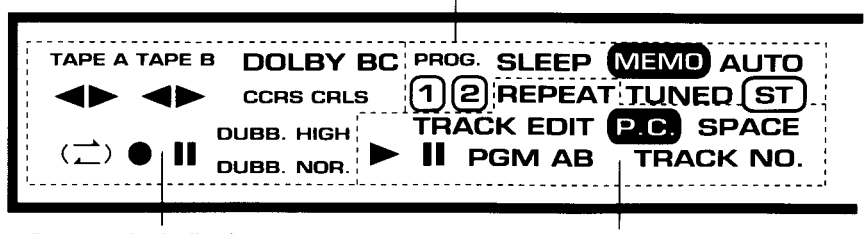
CONTROLS & INDICATORS

■ Cassette deck/CD player/tuner unit



Tuner display

PROG. 1/2 indicator — AUTO indicator
SLEEP indicator — TUNED indicator
MEMO indicator — ST (Stereo) indicator



Casette deck display

DECK A play indicators — CRLS indicator
DECK B play indicators — DUBB. HIGH indicator
DOLBY B/C indicators — DUBB. NOR. indicator
CCRS indicator — Rec/Pause indicator
Direction indicator

CD player display

REPEAT indicator — EDIT indicator
TRACK indicator — P.C. (Program check)indicator
PGM A/B indicators — SPACE indicator
Play/pause indicators — TRACK NO. indicator

REMOTE CONTROLLER

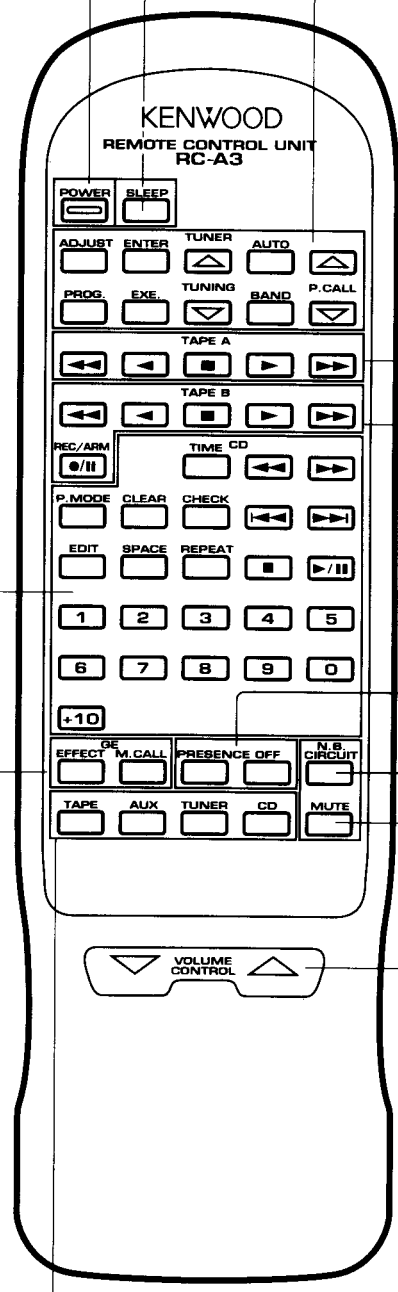
POWER key

Tuner operation keys
ADJUST : Adjusts the time of day.
TUNING : Tunes a station.
AUTO : Switches the tuning modes.
P.CALL : Recalls the preset stations.
PROG. : Modifies or checks the programmed contents.
EXE. : Executes the program.
BAND : Switches the broadcast bands.
SLEEP : Sets the sleep timer.

CD operation keys
P.MODE : Switches the play modes.
CLEAR : Clears a selected track from the program.
CHECK : Checks the tracks selected in the program.
EDIT : Switches the editing modes.
SPACE : During recording, creates a non-recorded space of 4 seconds between tracks.
REPEAT : Plays track(s) repeatedly.
TIME : Switches the time display.

Numeric keys
How to enter numbers:
To enter 20 ··· [+10] [+10] [0]
To enter 23 ··· [+10] [+10] [3]

Graphic equalizer operation keys
EFFECT : Turns the graphic equalizer effects ON/OFF.
M.CALL : Each press recalls a pattern from memory.



Deck A operation keys

Deck B operation keys

PRESENCE : Switches the presence modes.
OFF : Turns the presence mode OFF.

N.B.CIRCUIT : Reproduces more natural bass sound.

MUTE key
Reduces the volume temporarily. The indicator on the VOLUME CONTROL knob blinks while muting is active.

MASTER VOLUME control keys
Adjusts the volume. While these keys are operated, the VOLUME CONTROL knob on the main unit rotates and the indicator on it blinks at high speed.

Input select keys

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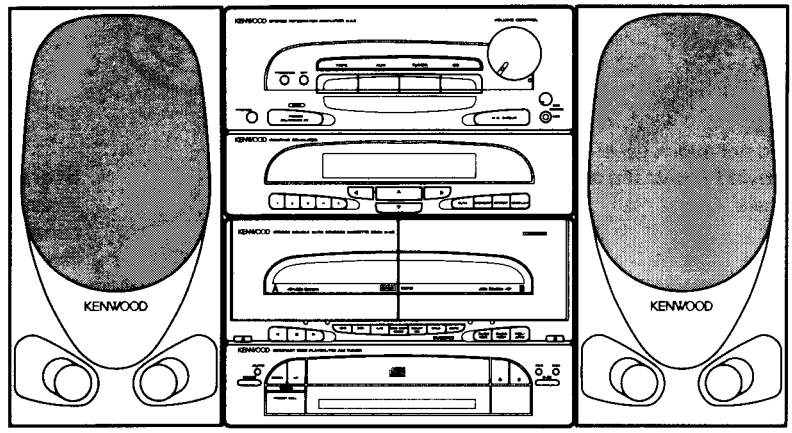
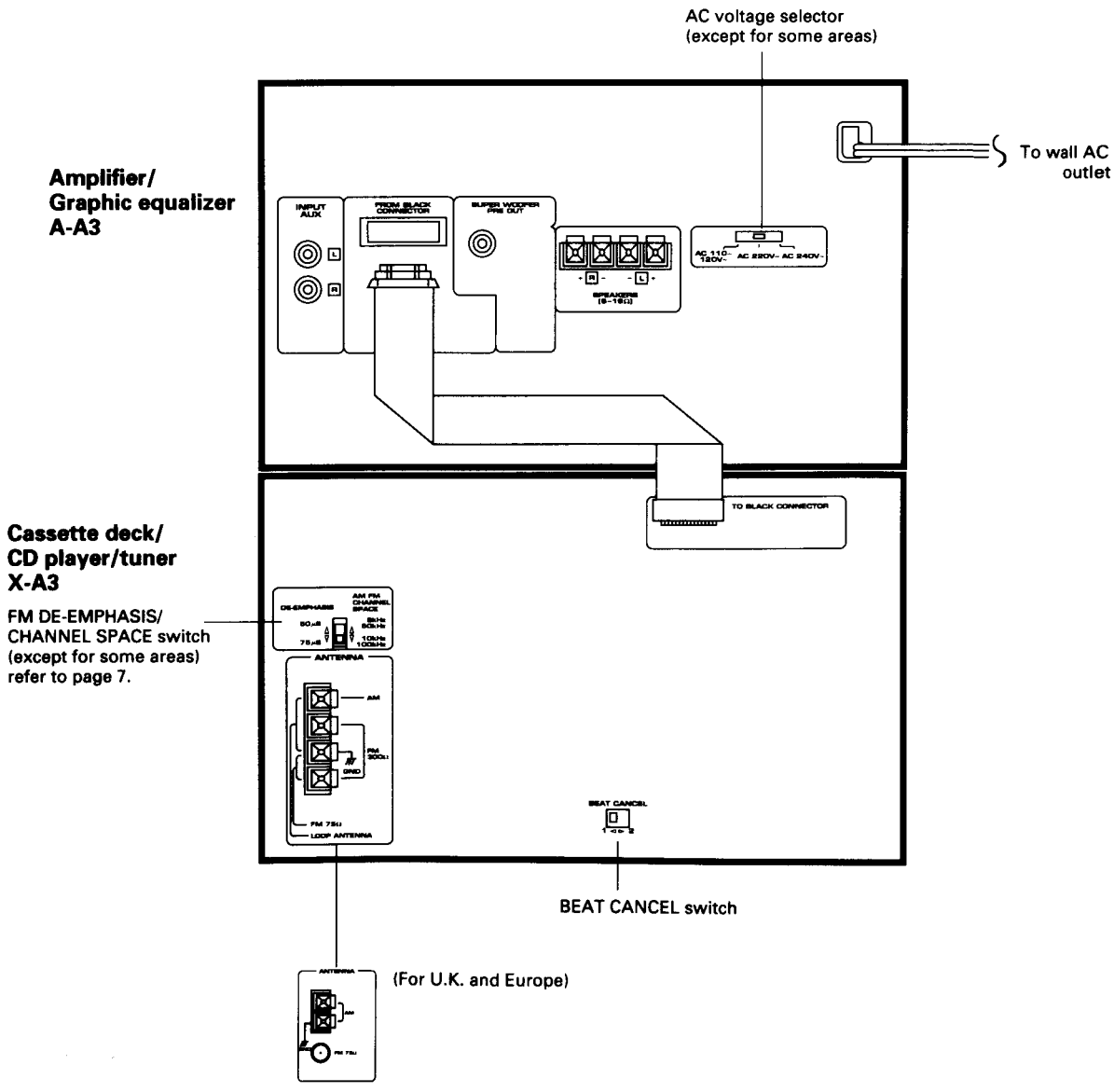
SYSTEM CONNECTIONS

Do not plug in the power cord until all connections are completed.

- When stacking components, follow the indicated order in the connections diagram.
- When connecting the related system components, refer also to the instruction manuals of the related components.

Vertical installation





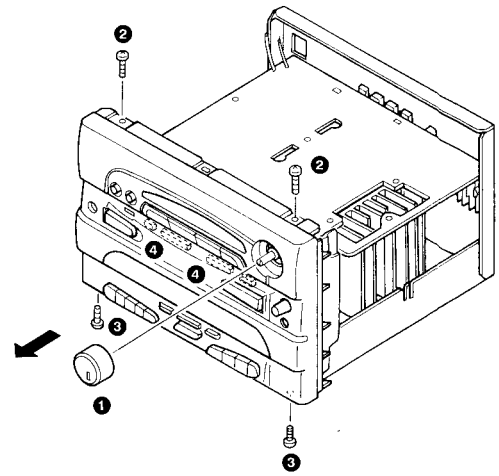
DISASSEMBLY FOR REPAIR

(Remove the metallic cabinet from the body beforehand)

(A-A3)

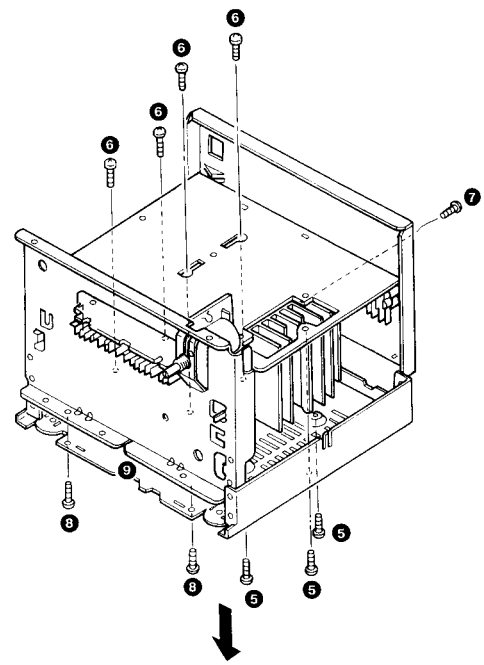
① Removing the front panel ass'y.

1) Remove volume knob ❶.
2) Remove 2 screws ❷.
3) Remove 2 screws ❸.
4) Pull out front panel ass'y frontwards with care of connectors ❹.



② Removing the chassis of bottom board.

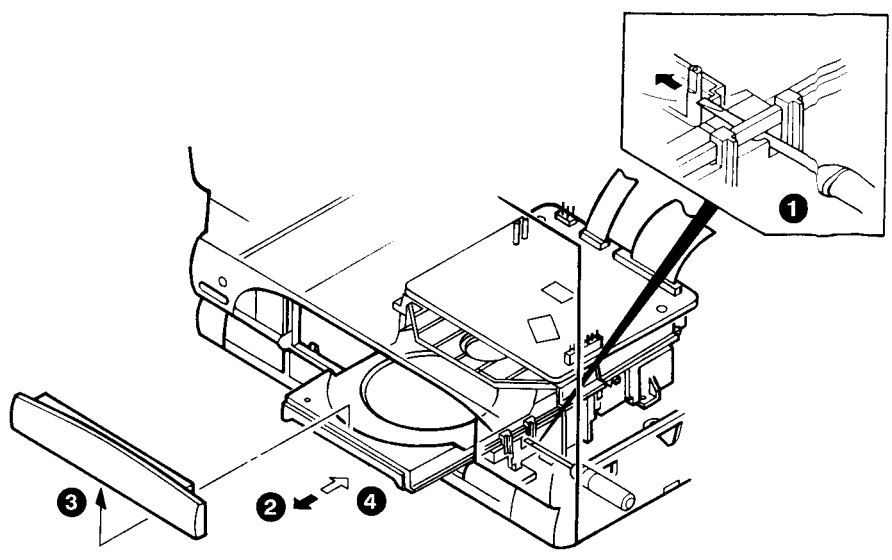
5) Remove 3 screws ❺.
6) Remove 4 screws ❻ of the transformer.
7) Remove 1 screw ❼.
8) Remove 2 screws ❽.
9) Remove the chassis of bottom board ❾.



(X-A3)

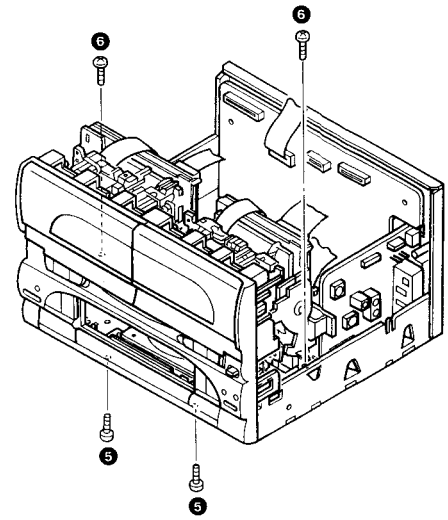
① Removing the front panel ass'y.

1) Insert the driver to push the slider, into the rightside hole of mechanism ass'y (❶).
2) Pull out the tray (❷).
3) Remove the tray panel (❸).
4) Push the tray backwards (❹).

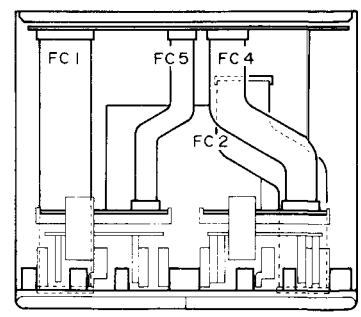


DISASSEMBLY FOR REPAIR

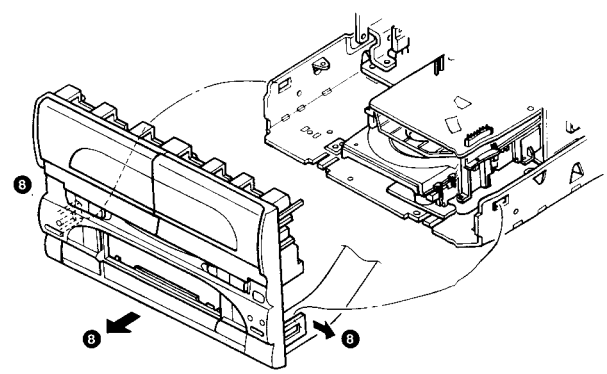
5) Remove 2 screws ❺.
6) Remove 2 screws ❻.



7) Remove flat cables (FC1~4) from connector.

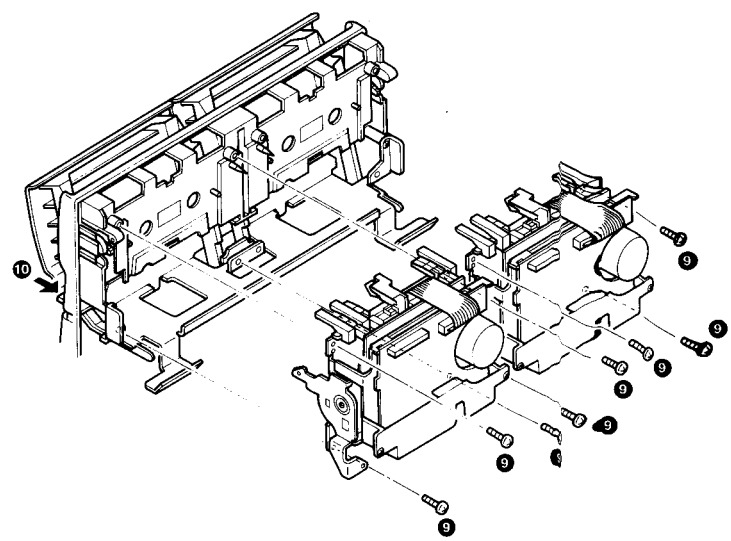


8) Remove both side of catchers and panel ❽.



② Removing the cassette mechanism.

9) Remove 8 screws ❾.
10) Push eject knob and remove mechanism ass'y ❿.

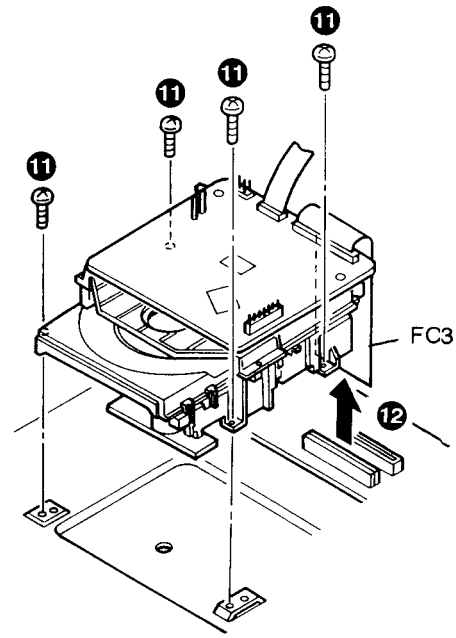


DISASSEMBLY FOR REPAIR

③ Removing the CD mechanism.

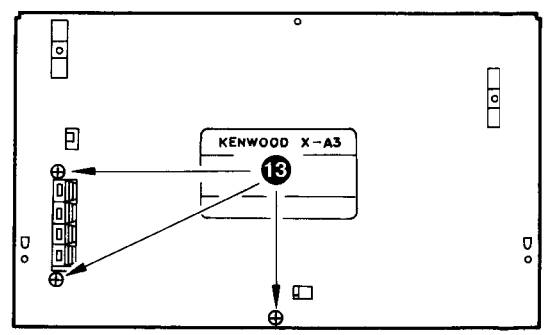
11) Remove 4 screws ⑪ .

12) Remove FC3. ⑫ .



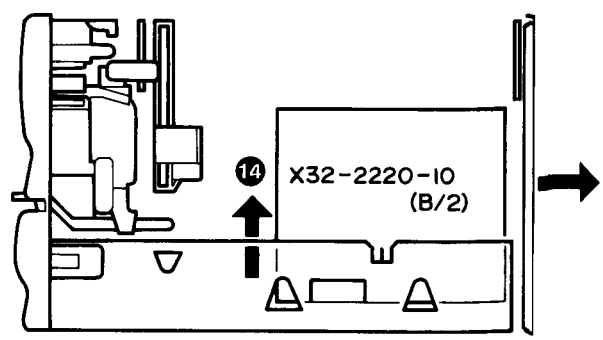
④ Removing the tuner PCB.

13) Remove 2 screws ⑬ .



REAR PANEL

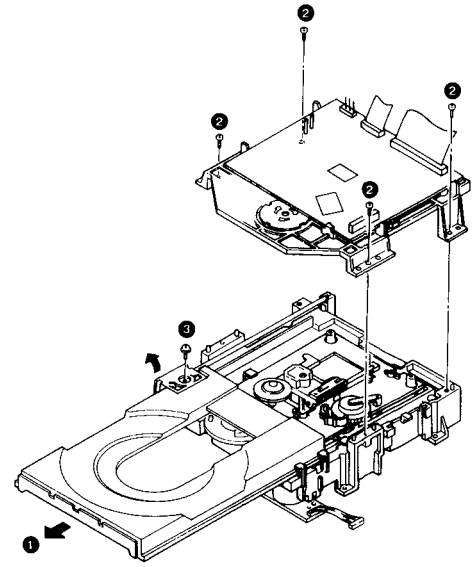
14) Remove the tuner PCB from connector. ⑭ .



DISASSEMBLY FOR REPAIR

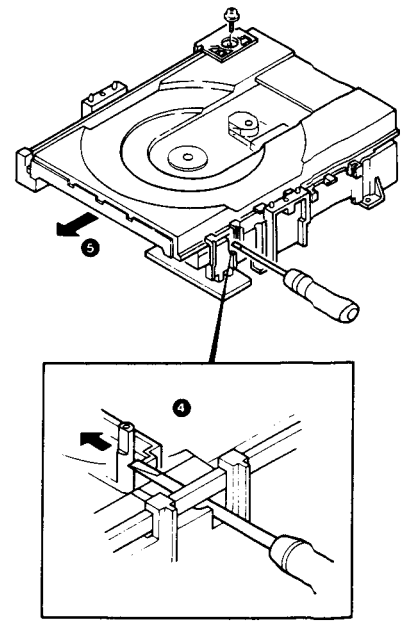
1) How to Remove Tray

1. Turn the power switch to OFF when the tray is open condition (❶).
2. Remove the screws (❷) and clamper ass'y.
3. Remove the screw (❸) and guide. And then remove the tray.



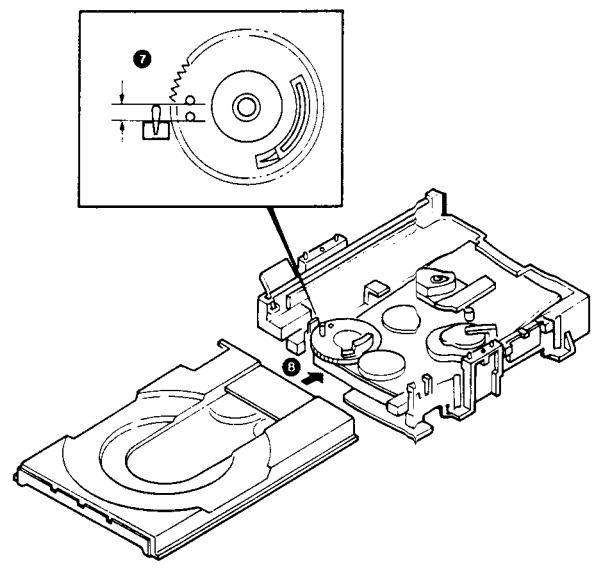
2) How to Remove the Tray When Power Switch is OFF or Tray Not Come Out

1. Insert the driver to the right-side hole of mechanism ass'y (❹).
2. Tray can be pulled out (❺).



3) How to Mount the Tray

1. Meet the mark on the gear with that of mechanism chassis (❼).
2. Insert the tray to both-side guide on chassis (❽).
3. Mount the guide on the chassis with screw (❸).

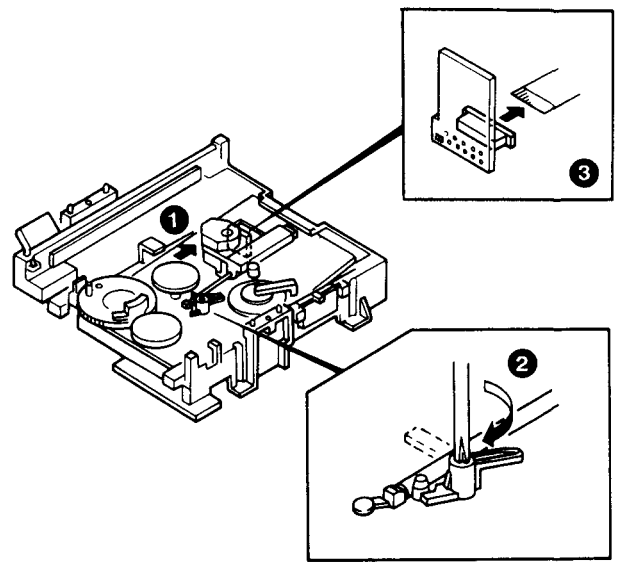


DISASSEMBLY FOR REPAIR

4) How to Replace the Pickup

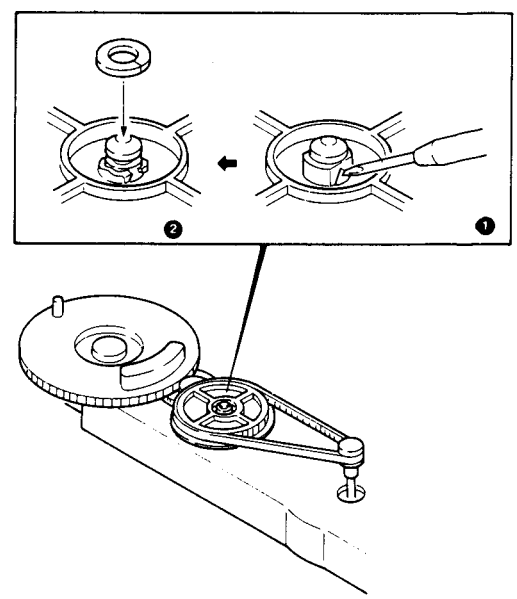
1. Remove the clamper ass'y and pull out the tray.
2. Move the pickup to center position of its all travel (❶), and turn the stopper to clockwise (❷).
3. Remove the flexible and pickup (❸).

Note : When mounting the pickup, in the reverse order of disassembly.



5) How to Replace the Loading Gear

1. Spread the hole of gear shaft (❶).
2. When gear is broken, use the cut washer (❷) (parts no. N19-1179-05)



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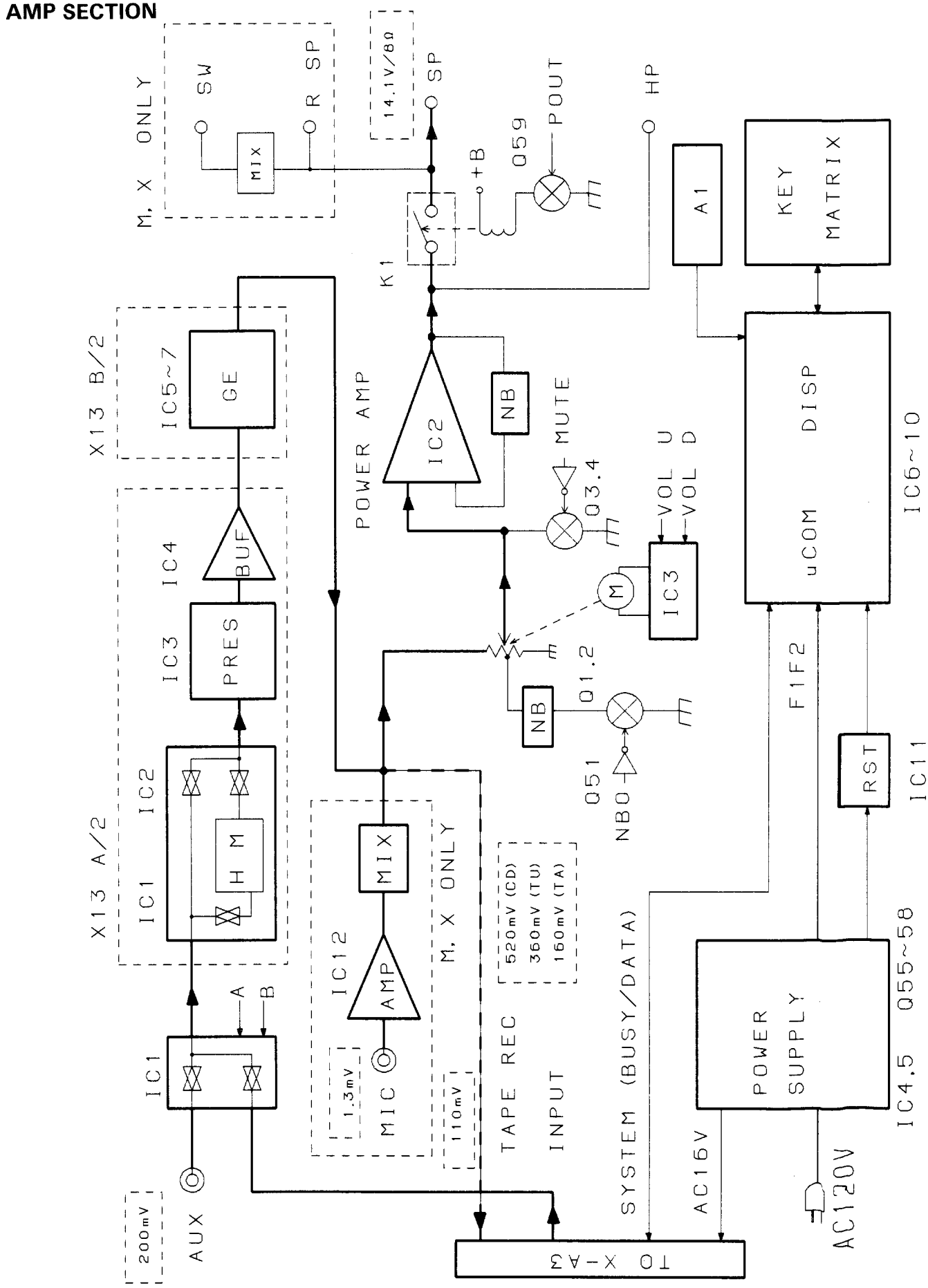
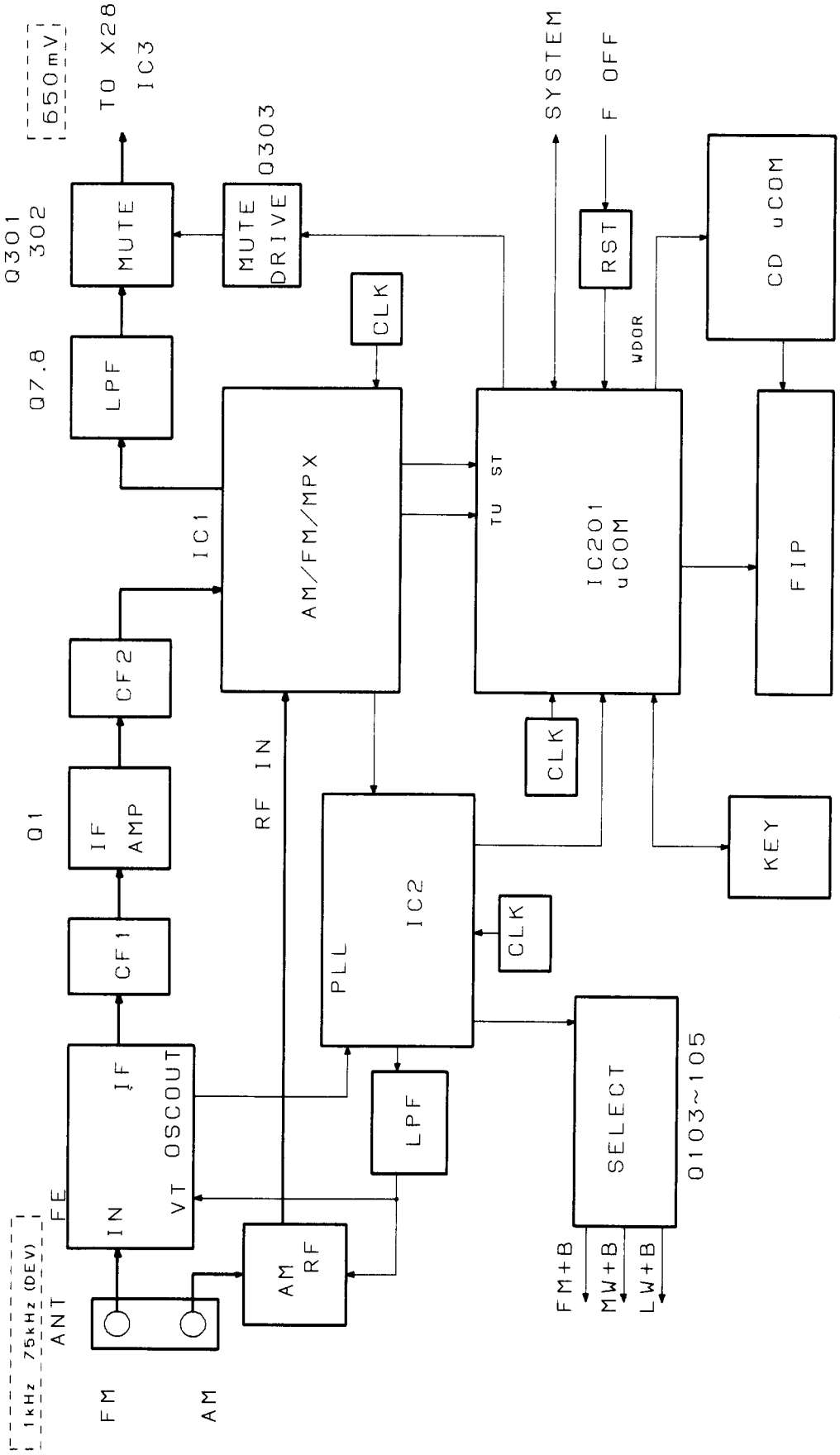
BLOCK DIAGRAM



BLOCK DIAGRAM

TUNER SECTION



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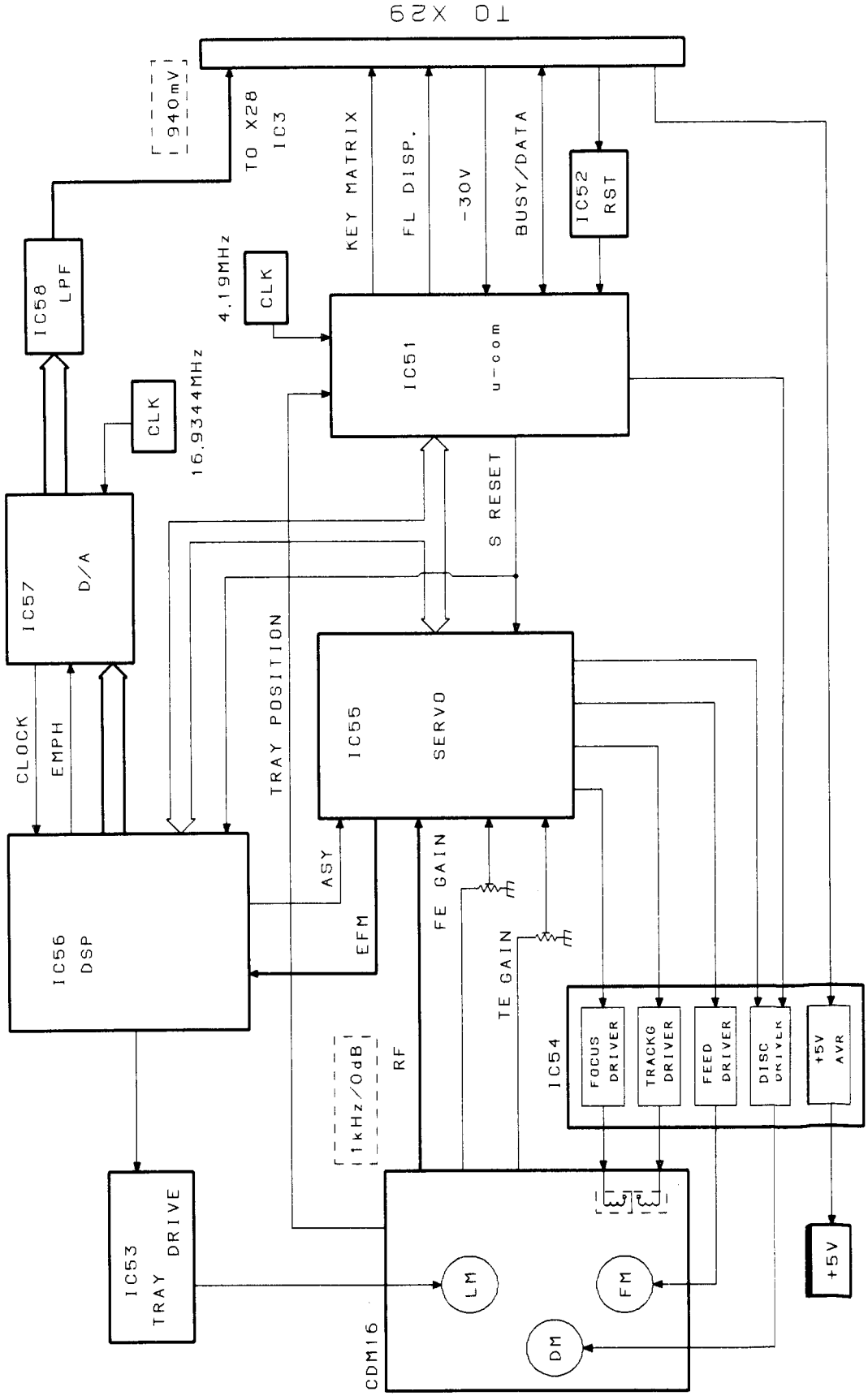
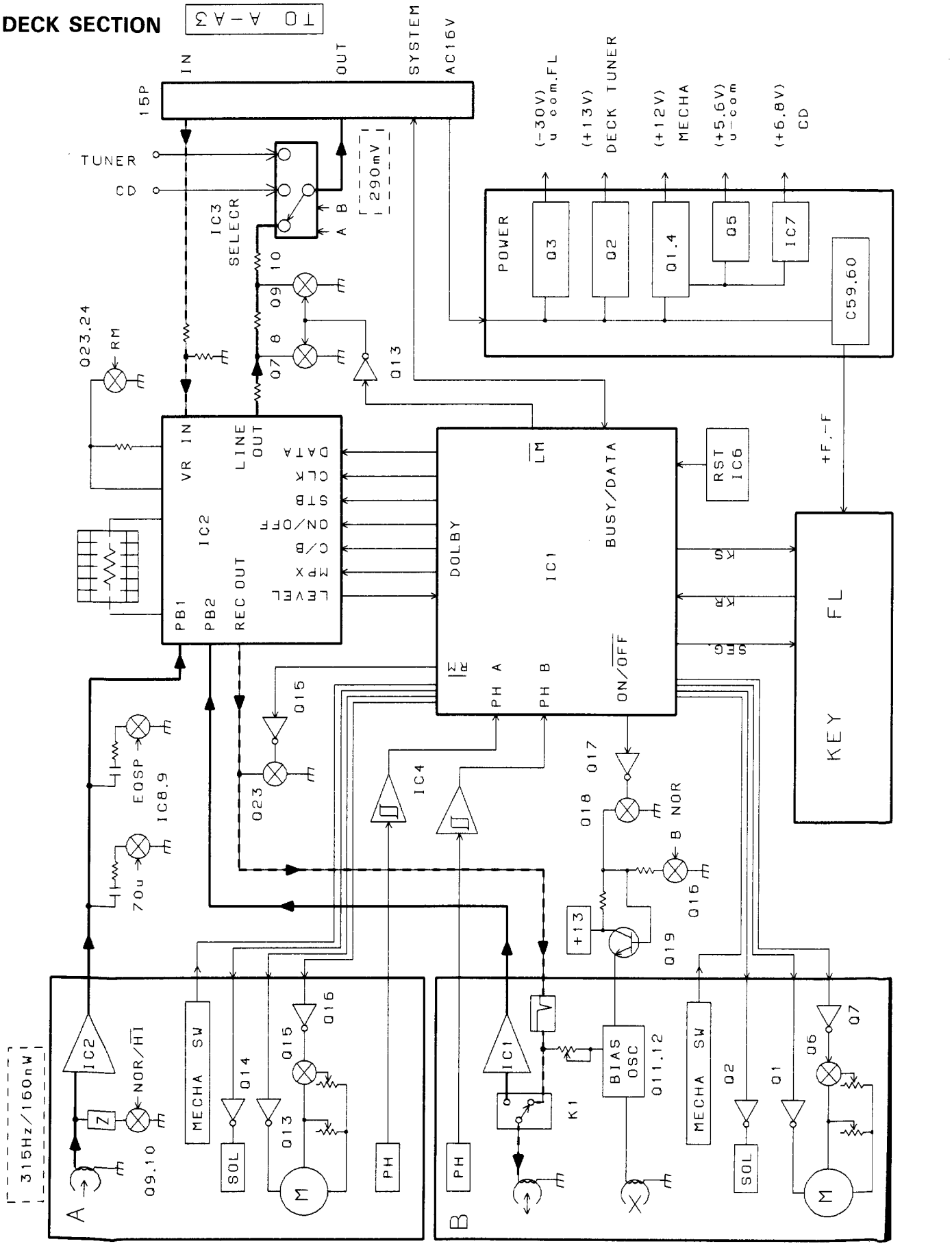
BLOCK DIAGRAM

CD SECTION



BLOCK DIAGRAM

DECK SECTION



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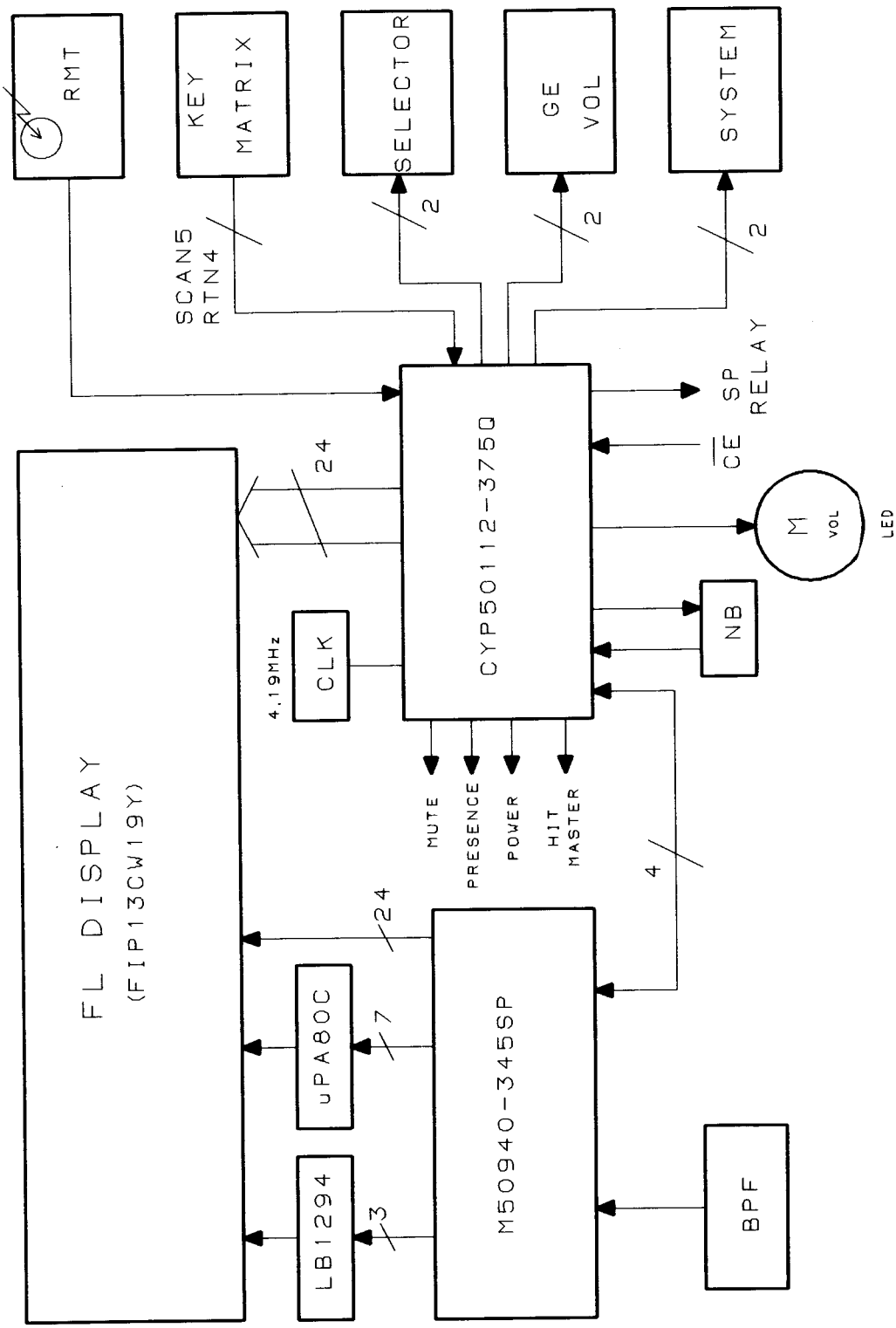
CIRCUIT DIAGRAM

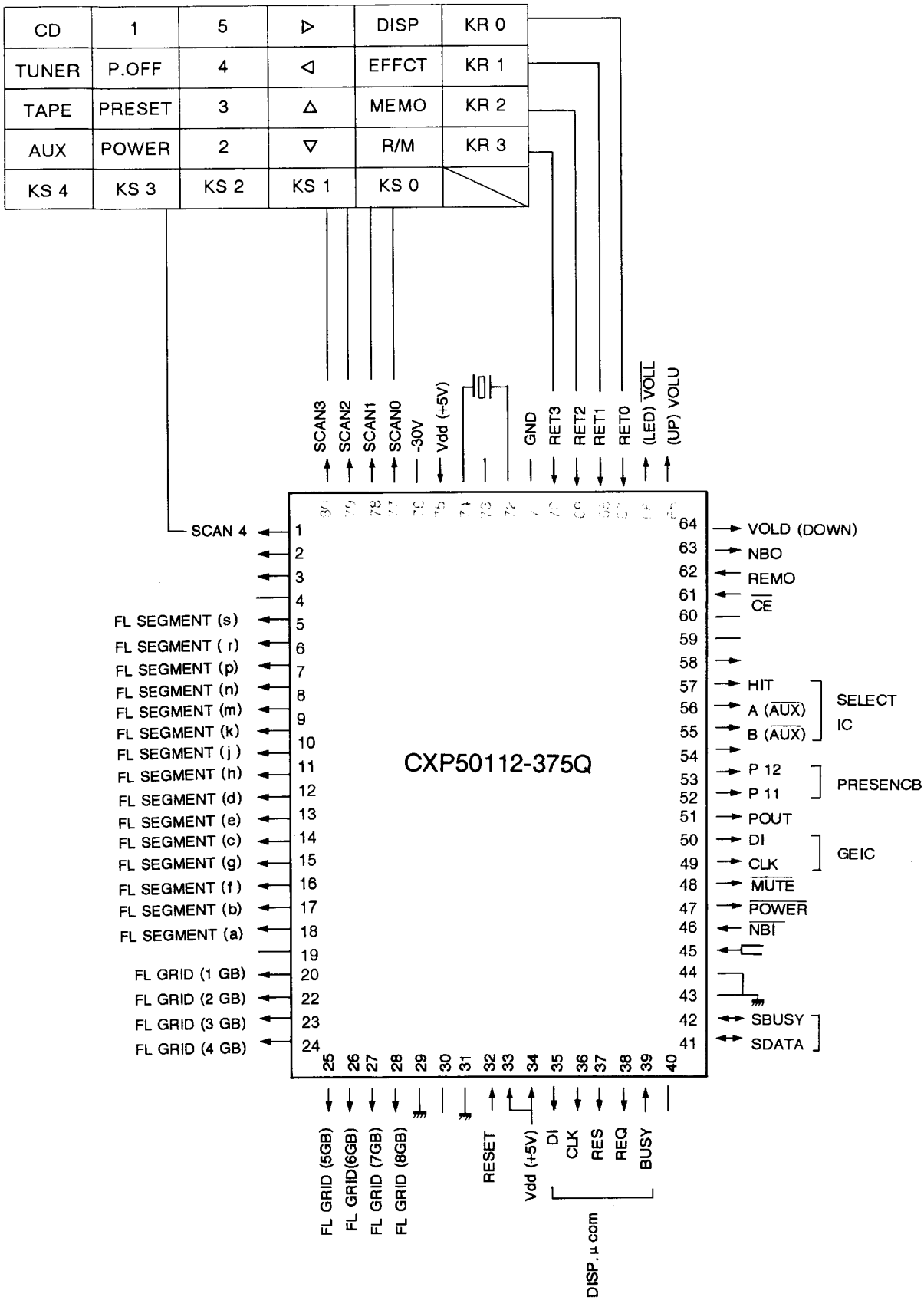
Terminal connection diagram (A-A3)



CIRCUIT DIAGRAM

Microprocessor: (CXP50112-375Q or CXP50112-388Q)

Pin connection



CIRCUIT DESCRIPTION

PIN DESCRIPTIONS (CXP50112-375Q or CXP50112-388Q)

PIN No	PIN NAME	I/O	SYMBOL/FUNCTION
1	PG0	O	SCAN4
2	PG1	—	NC
3	PG2	—	NC
4	PG3	—	NC
5	PK0	O	FL SEGMENT (s)
6	PK1	O	FL SEGMENT (r)
7	PK2	O	FL SEGMENT (p)
8	PK3	O	FL SEGMENT (n)
9	PJ0	O	FL SEGMENT (m)
10	PJ1	O	FL SEGMENT (k)
11	PJ2	O	FL SEGMENT (j)
12	PJ3	O	FL SEGMENT (h)
13	T15	O	FL SEGMENT (d)
14	T14	O	FL SEGMENT (e)
15	T13	O	FL SEGMENT (c)
16	T12	O	FL SEGMENT (g)
17	T11	O	FL SEGMENT (f)
18	T10	O	FL SEGMENT (b)
19	T9	O	FL SEGMENT (a)
20	T8	—	NC
21	T7	O	FL GRID (1GB)
22	T6	O	FL GRID (2GB)
23	T5	O	FL GRID (3GB)
24	T4	O	FL GRID (4GB)
25	T3	O	FL GRID (5GB)
26	T2	O	FL GRID (6GB)
27	T1	O	FL GRID (7GB)
28	T0	O	FL GRID (8GB)
29	INT	—	GND
30	TX	—	NC
31	TEX	—	GND
32	$\overline{RES}$	I	RESET
33	NC	—	NC
34	Vdd	—	Vdd (+5V)
35	PI0	O	DI (for DISP μ-com)
36	PI1	O	CLK (for DISP μ-com)
37	PI2	O	RES (for DISP μ-com)
38	PI3	O	REQ (for DISP μ-com)
39	PB0	I	BUSY (for DISP μ-com)
40	PB1	—	NC
41	PB2	I/O	SDATA
42	PB3	I/O	SBUSY

PIN No	PIN NAME	I/O	SYMBOL/FUNCTION
43	$\overline{EC}$	—	GND
44	PX0	—	GND
45	PX1	—	NC
46	PX2	I	$\overline{NBI}$ H: OFF L: ON
47	PA0	O	$\overline{POWER}$ H: OFF L: ON
48	PA1	O	$\overline{MUTE}$
49	PA2	O	CLK (for GE IC)
50	PA3	O	DI (for GE IC)
51	PF0	O	POUT (for SP RELAY) H: ON L: OFF
52	PF1	O	PI1
53	PF2	O	PI2
54	PF3		NC
55	PE0	O	AUX
56	PE1	O	$\overline{AUX}$
57	PE2	O	HIT.M H: ON
58	PE3	—	NC
59	PY0	—	NC
60	PY1	—	NC
61	PY2	I	$\overline{CE}$ (BACK UP: L)
62	PY3	I	REMO
63	PD0	O	NBO
64	PD1	O	VOLD
65	PD2	O	VOLU
66	PD3	O	$\overline{VOLL}$
67	PC0	I	RET0
68	PC1	I	RET1
69	PC2	I	RET2
70	PC3	I	RET3
71	Vss	—	Vss GND
72	XTAL	—	XTAL
73	NC	—	NC
74	EXTAL	—	EXTAL
75	Vdd	—	Vref (+5V)
76	Vfdp	—	Vfdp (−30V)
77	SCAN0	O	S0
78	SCAN1	O	S1
79	SCAN2	O	S2
80	SCAN3	O	S3

P.MODE	PI1	PI2
ARENA	I	I
STADIUM	I	I
JAZZ	I	0
HIT	I	0
OFF	0	0

CIRCUIT DESCRIPTION

Initial condition

INPUT SELECTOR	TUNER
PRESENCE MODE	OFF
EFECT	OFF
MANU/REFER	MANU
N.B	OFF
GE	FLAT (0dB)

Test mode

1)Operation

Insert the AC plug into the wall outlet while holding down the selector "CD" key.

2)Cancel

Power OFF.

3)Content

a)Indicators lighting test.

All the indicator are turned ON at first, and they are returned to the normal indication when any key is pressed.

Set the contents of memories M1~M5 as follows.

M1,4 -12dB

M2,5 0dB

M3 +12dB

In all the range of frequency, the EQ leve "UP" key is used to set three points of +12dB,0dB and -12dB.

b)Motor volume test

Sets the contents of EQ level control keys, " ▶ " , " ◀ " and " ▼ " as follws.

▶ .....Volume up.

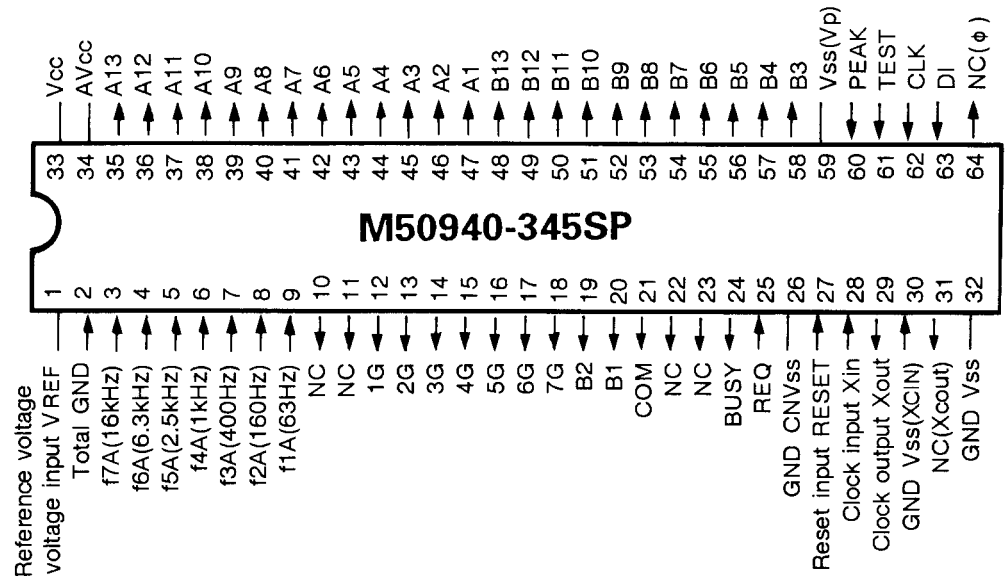
◀ .....Volume down.

▼ .....Volume stop.

CIRCUIT DESCRIPTION

GE microprocessor : M50940-345SP

Pin connection

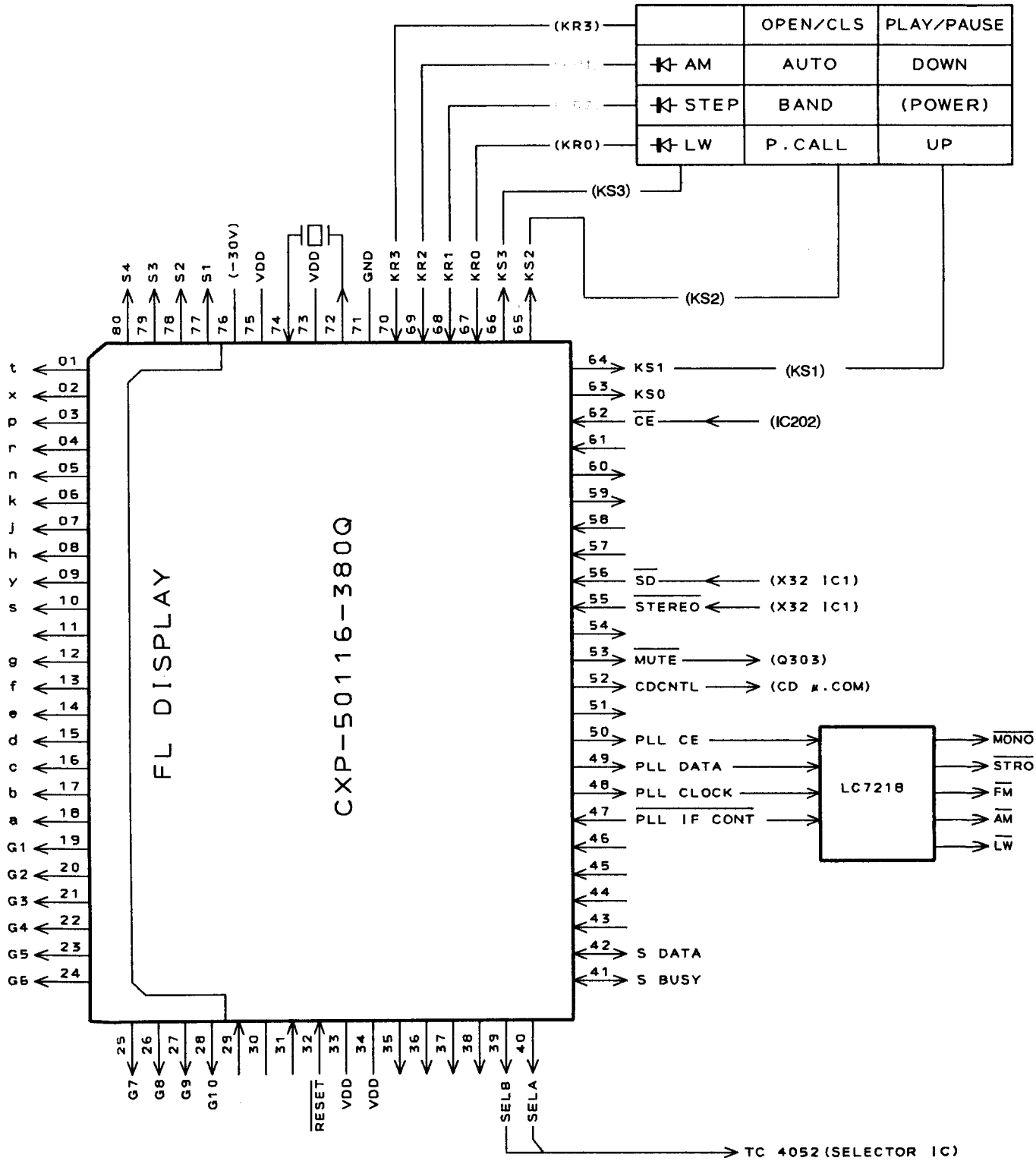


Pin function

Pin No.	Pin name	I/O	Name	Description
1	VREF	—	VREF	Reference voltage input for A/D converter.
2	IN7	I	Total	Not used (GND).
3 ~ 9	IN6 ~ 0		f7A ~ f1A	f7A ~ f1A (16k, 6.3k, 2.5k, 1k, 400, 160, 63Hz) level analog input.
10, 11	P47, 46	O	—	Not used (Open).
12 ~ 18	P45 ~ 40, 37		1GB ~ 7GB	FL grid drive (1GB ~ 7GB).
19 ~ 21	P34 ~ 36		B2, B1, COM	FL segment drive
22, 23	P32, 33			Not used (Open).
24	P31		BUSY	BUSY signal output pin for communicating to main microprocessor.
25	P30	I	REQ	REQ signal input pin for communicating to main microprocessor.
26	CNVss	—	—	Connect the GND.
27	$\overline{\text{RESET}}$	I	RESET	Reset pin (H: Normal, L: Reset).
28	XIN		—	Oscillator connect pin (4MHz).
29	XOUT	O		
30	XCIN	I		Not used (GND).
31	XCOUT	O		Not used (Open).
32	Vss	—		GND pin.
33	—	O		Not used (Open).
34	R3	I	DI	DATA signal input pin for communicating to main microprocessor.
35	R2		CLK	CLOCK signal input pin for communicating to main microprocessor.
36	R1		TEST	Test mode setting pin (H: Test, L: Normal). Not Used.
37	R0		PEAK	Peak hold detection (H: Without, L: With). Not Used.
38	VP	—	—	Connect the −30V.
39 ~ 49	P17 ~ P05	O	B3 ~ B13	Fl segment drive (16B ~ 26B), (H: ON, L: OFF).
50 ~ 62	P04 ~ P00 P27 ~ P20		A1 ~ A13	FL segment drive (1B ~ 13B), (H: ON, L: OFF).
63, 64	AVcc, Vcc	—	—	Power supply pin (+5V).

CIRCUIT DIAGRAM

FL DISPLAY (CXP50116-380Q)



CIRCUIT DESCRIPTION

Pin descriptions (CXP50116-380Q)

PIN No	PIN NAME	I/O	SYMBOL/FUNCTION
1	PG0	O	FL SEGMENT (t)
2	PG1	O	FL SEGMENT (x)
3	PG2	O	FL SEGMENT (p)
4	PG3	O	FL SEGMENT (r)
5	PK0	O	FL SEGMENT (n)
6	PK1	O	FL SEGMENT (k)
7	PK2	O	FL SEGMENT (j)
8	PK3	O	FL SEGMENT (h)
9	PJ0	O	FL SEGMENT (y)
10	PJ1	O	FL SEGMENT (s)
11	PJ2	O	FL SEGMENT (m)
12	PJ3	O	FL SEGMENT (g)
13	T15	O	FL SEGMENT (f)
14	T14	O	FL SEGMENT (e)
15	T13	O	FL SEGMENT (d)
16	T12	O	FL SEGMENT (c)
17	T11	O	FL SEGMENT (b)
18	T10	O	FL SEGMENT (a)
19	T9	O	FL GRID (1G)
20	T8	O	FL GRID (2G)
21	T7	O	FL GRID (3G)
22	T6	O	FL GRID (4G)
23	T5	O	FL GRID (5G)
24	T4	O	FL GRID (6G)
25	T3	O	FL GRID (7G)
26	T2	O	FL GRID (8G)
27	T1	O	FL GRID (9G)
28	T0	O	FL GRID (10G)
29	INT	I	GND
30	TX	O	NC
31	TEX	I	GND
32	$\overline{RES}$	I	RESET
33	NC	—	Vdd
34	Vdd	—	Vdd (+5V)
35	PI0	I	GND
36	PI1	I	GND
37	PI2	I	GND
38	PI3	I	GND
39	PB0	O	SEL B
40	PB1	O	SEL A

PIN No	PIN NAME	I/O	SYMBOL/FUNCTION
41	PB2	I/O	SDATA
42	PB3	I/O	SBUSY
43	$\overline{EC}$	I	GND
44	PX0	I	GND
45	PX1	I	GND
46	PX2	I	GND
47	PA0	I	PLL IF
48	PA1	O	PLL CK
49	PA2	O	PLL DT
50	PA3	O	PLL CE
51	PF0	O	GND
52	PF1	O	CDCNTL L: TUNER H: CD
53	PF2	O	$\overline{MUTE}$ L: ON H: OFF
54	PF3	O	POWER L: OFF H: ON
55	PE0	I	$\overline{STEREO}$ L: MONO H: ST
56	PE1	I	$\overline{SD}$ L: TUNED
57	PE2	I	GND
58	PE3	I	GND
59	PY0	O	—
60	PY1	O	—
61	PY2	I	$\overline{CE}$ (BACK UP: L)
62	PY3	I	GND
63	PD0	O	GND
64	PD1	O	KS1
65	PD2	O	KS2
66	PD3	O	KS3
67	PC0	I	KR0
68	PC1	I	KR1
69	PC2	I	KR2
70	PC3	I	KR3
71	Vss	—	Vss GND
72	XTAL	O	XTAL
73	NC	—	NC
74	EXTAL	I	EXTAL
75	Vdd	—	Vref (+5V)
76	Vfdp	—	Vfdp (−30V)
77	SCAN0	O	FL SEGMENT (S1)
78	SCAN1	O	FL SEGMENT (S2)
79	SCAN2	O	FL SEGMENT (S3)
80	SCAN3	O	FL SEGMENT (S4)

CIRCUIT DESCRIPTION

Test mode (without A-A3)

Setting of tuner test mode

(1) Method

While pressing "DOWN" key, turn the AC ON.

(2) Contents

Power ON

FL all lit

Selector TUNER

Test frequency setting (table 1)

TYPE / CH	OTHER T, E TYPE		T, E TYPE	
	NARROW	WIDE	LW/MW	MW
1	FM 98.0MHz	FM 98.0MHz	FM 98.0MHz	FM 98.0MHz
2	FM108.0MHz	FM108.0MHz	FM108.0MHz	FM108.0MHz
3	AM 630KHz	AM 630KHz	AM 630KHz	AM 630KHz
4	AM 990KHz	AM 990KHz	AM 990KHz	AM 990KHz
5	AM 1440KHz	AM 1440KHz	AM 1440KHz	AM 1440KHz
6	AM 1610KHz	AM 1610KHz	AM 1602KHz	AM 1602KHz
7	FM 87.5MHz	AM 1700KHz	LW 162KHz	FM 87.5MHz
8	FM 87.5MHz	FM 87.5MHz	LW 216KHz	FM 87.5MHz
9	FM 87.5MHz	FM 87.5MHz	LW 270KHz	FM 87.5MHz
10	FM 89.1MHz	FM 89.1KHz	FM 89.1MHz	FM 89.1MHz
11	FM 87.5MHz	FM 87.5MHz	LW 279KHz	FM 87.5MHz
12	FM 90.0MHz	FM 90.0MHz	FM 90.0MHz	FM 90.0MHz
13	FM106.0MHz	FM106.0MHz	FM 106.0KHz	FM 106.0KHz
14	AM 530KHz	AM 530KHz	AM 531KHz	AM 531KHz
15	FM 87.5MHz	FM 87.5MHz	LW 153KHz	FM 87.5MHz
16	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz
17	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz
18	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz
19	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz
20	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz	FM 87.5MHz

Setting of deck test mode.

(1) Method

While pressing "UP" key, turn the AC ON.

(2) Contents

Power ON

Selector DECK

Setting of CD test mode.

(1) Method

While pressing "PLAY/PAUSE" key, turn the AC ON.

Then just short-circuiting the TP7 and TP8.

(2) Contents

Power ON.

Selector CD

Setting of initial conditions (reset)

(1) Method

While pressing "P.CALL" key, turn the AC ON.

(2) Contents

Clears all the memory and returns to the initial conditions.

However, the test frequency in newly memorized in the preset memory at this time.

Conditions by destination

TYPE	Diode SW 3	2	1	0	BAND	f range	Channel space	IF	RF
M	0	1	0	0	FM	87.5~108.0MHz	100kHz	10.7MHz	50kHz
					AM	530~1610kHz	10kHz	450kHz	10kHz
K.P	0	1	1	0	FM	87.5~108.0MHz	100kHz	10.7MHz	50kHz
					AM	530~1700kHz	10kHz	450KHz	10kHz
M.X	0	0	0	0	FM	87.5~108.0MHz	50kHz	10.7MHz	50kHz
					AM	531~1602kHz	9kHz	450kHz	9kHz
T.E	0	0	0	1	FM	87.5~108.0MHz	50kHz	10.7MHz	50kHz
					MW	531~1602kHz	9kHz	450kHz	9kHz
					LW	153~279kHz	9kHz	450kHz	9kHz

1. With diode
0. Without diode

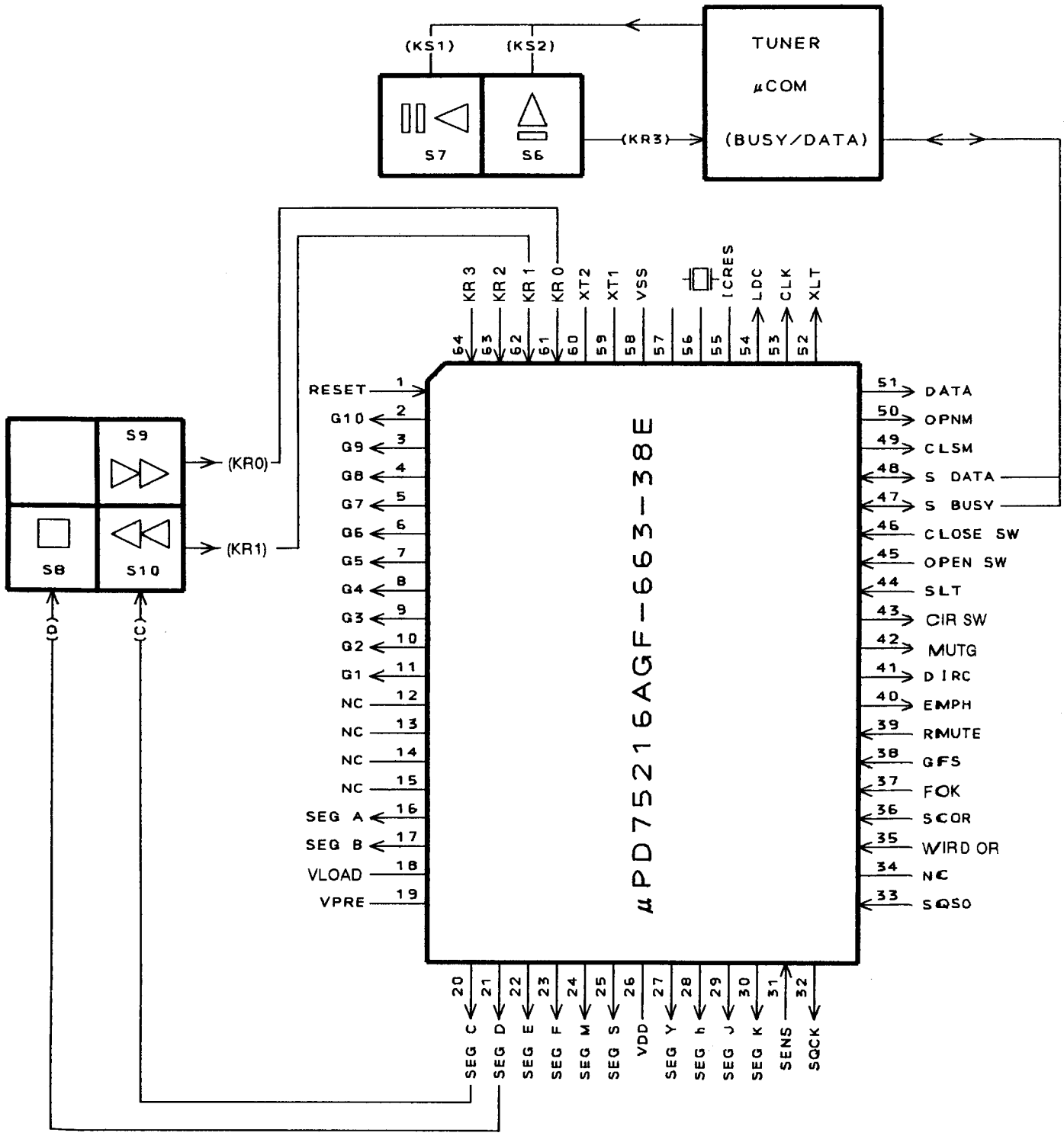
D0 →D212
D1 →D213
D2 →D214/D216
D3 —

UD-300

CIRCUIT DIAGRAM

CD: Microprocessor (μPD75216AGF-663-3BE)

Pin connection



CIRCUIT DESCRIPTION

Pin description

NO	PIN NAME	I/O	NAME	FUNCTION
1	RESET	I	$\overline{\text{RESET}}$	Reset input (ACTIVE:L)
2~11	T0~T9	O	G10~G1	FL digit control terminals
3~15	T10~T13	—	NC	
16	T14	O	SEG A	
17	T15	O	SEG B	
18	VLOAD	I	V_{LOAD}	FL driver negative power supply -30V
19	VPRE	I	V_{PRE}	FL predriver power supply -5V
20~25	S9~S4	O	SEG C,D,E,F,M,S	C and D also used for key scan SIGNAL
26	VDD	I		+5V
27~30	S3~S0	O	SEG Y,R,J,K	—
31	INT4	I	SENS	Signal detection terminal for sense signal from processor and servo IC
32	SCK	O	SQCK	Q data read clock input terminal
33	SO	I	SQSO	Q data input terminal
34	SI	I		NC
35	INT0	I	WIRD OR	Display select
36	INT1	I	SCOR	Sub-code frame sync detection signal input
37	INT2	I	FOK	FOK signal from RF amp focus OK:H
38	T10	I	GFS	Frame sync signal input H:Frame sync
39	P20	O	$\overline{\text{R MUTE}}$	Analog mute control ACTIVE:L
40	P21	O	EMPH	Not use
41	P22	O	DIRC	Dirc terminal of servo IC
42	P23	O	MUTG	Not use
43	P30	O	CIRSW	+5V ON/OFF control for CD
44	P31	I	$\overline{\text{SLTSW}}$	SLED LIMIT switch INNER:L
45	P32	I	$\overline{\text{OPEN SW}}$	TRAY OPEN switch OPEN:L
46	P33	I	$\overline{\text{CLOSE SW}}$	TRAY CLOSE switch CLOSE:L
47	P60	I/O	SBUSY	—
48	P61	I/O	SDATA	—
49	P62	O	CLSM	TRAY motor close ACTIVE: H
50	P63	O	OPNM	TRAY motor open ACTIVE: H
51	P40	O	DATA	Signal processor and servo IC control DATA
52	P41	O	XLT	Signal processor and servo IC control LATCH
53	P42	O	CLK	Signal processor and servo IC control CLOCK
54	P43	O	LDC	Laser ON/OFF signal output ACTIVE:H
55	PR0	O	ICRES	
56	X1	I	—	Systemclock terminal
57	X2	O	—	Systemclock terminal
58	Vss	—	—	GND
59	XT1	—	—	GND
60	XT2	—	—	NC
61~64	P50~P53	I	KR0~KR3	—

CIRCUIT DESCRIPTION

Test Mode

Setting the Test Mode

This microprocessor built in this unit can be put to TEST MODE by just short-circuiting the test pins (#7 and #8).

The TEST MODE can be also initiated with short-circuiting the test pins when tray is OPEN. If unit is in test mode, TRACK No. displays "05".

1-2. Key and functions valid in test mode

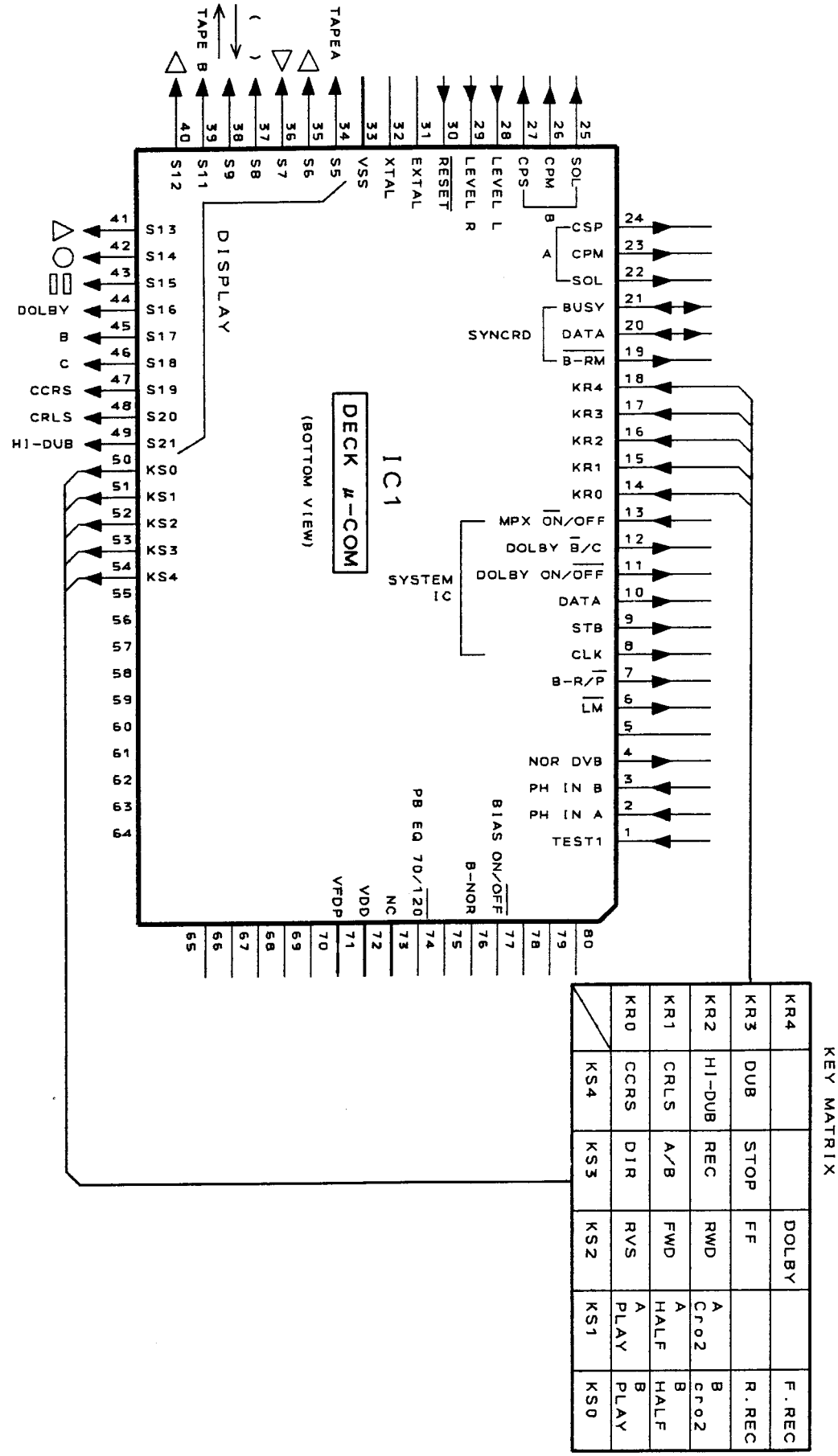
No.	Input key	Function	Track No. display
1	PLAY ▷	(1) Focusing servo ..... ON (2) Tracking servo ..... ON (3) Feed servo ..... ON	TRACK NO. 05 ↓ Displayed for a few seconds after completion (1), (2) and (3). ↓ Disc Track No. is displayed.
2	UP ▷▷|	(1) Focusing servo ..... ON (2) Tracking servo ..... OFF (3) Feed servo ..... OFF	TRACK NO. 03
3	STOP	(1) Focusing servo ..... OFF (2) Tracking servo ..... OFF (3) Feed servo ..... OFF	TRACK NO. 01
4	DOWN |◁◁	Track No. 7, 8, and 6 (High-speed) are programmed and playback from Track No. 7. The test mode is cancelled.	–
5	OPEN/CLOSE ⏏	When the tray is opened then closed. Track No. 7, 8, and 6 are programmed and set is in STOP mode. The test mode is cancelled.	TRACK NO. 07

INITIAL SET-UP

SYSTEM ..... OFF
LDC ..... LOW
CIRSW ..... LOW
ICRESET ..... LOW
DSP IC ..... DEAD
WIRD OR ..... LOW (TUNER)
DIRC ..... HIGH
TIME ..... SINGLE INCS
MODE ..... TRACK
REPEAT ..... OFF

CIRCUIT DIAGRAM

DECK-Microprocessor



CIRCUIT DESCRIPTION

PIN No	NAME	I/O	SYMBOL/FUNCTION
1	PE3	I	TEST 1
2	PE4	I	PHA
3	PE5	I	PHB
4	PE6	O	NOR DUBB [DISPLAY]
5	PE7	O	NC
6	PB0	O	$\overline{LM}$
7	PB1	O	R/$\overline{B}$
8	PB2	O	CLK
9	PB3	O	DATA
10	PB4	O	STB
11	PB5	O	DOL NO/$\overline{OFF}$
12	PB6	O	DOL $\overline{B}$/C
13	PB7	O	MPX $\overline{ON}$/OFF
14	PC0	I	KR0
15	PC1	I	KR1
16	PC2	I	KR2
17	PC3	I	KR3
18	PC4	I	KR4
19	PC5	O	$\overline{RM}$
20	PC6	I/O	DATA
21	PC7	I/O	BUSY
22	PA0	O	SOL
23	PA1	O	CAP
24	PA2	O	SP
25	PA3	O	SOL
26	PA4	O	CAP
27	PA5	O	SP
28	PA6	I	L LEVEL INPUT
29	PA7	I	R LEVEL INPUT
30	RST	I	RESET
31	EXTAL	—	—
32	XTAL	—	—
33	Vss	—	GND

SYSTEM IC CONTROL

A MECHA.

B MECHA.

PIN No	NAME	I/O	SYMBOL/FUNCTION
34	PD0	O	TAPE A
35	PD1	O	◁
36	PD2	O	▷
37	PD3	O	( )
38	PD4	O	⇆
39	PD5	O	TAPE B
40	PD6	O	◁
41	PD7	O	▷
42	PF0	O	REC ◯
43	PF1	O	‖
44	PF2	O	DOLBY
45	PF3	O	B
46	PF4	O	C
47	PF5	O	CCRS
48	PF6	O	CRLS
49	PF7	O	HIGH-DUBB
50	S16	O	KS0
51	S17	O	KS1
52	S18	O	KS2
53	S19	O	KS3
54	S20	O	KS4
55			NC
≀	—	—	≀
70			NC
71	VFDP	I	−30V
72	V_{DD}	I	+5V
73			NC
74	PG0	O	PBEQ 70/$\overline{120}$
75	PG1		NC
76	PG2	O	BIAS NOR/$\overline{Cr0_2}$
77	PG3	O	BIAS ON/$\overline{OFF}$
78	PE0	I	PULL UP
79	PE1	I	PULL UP
80	PE2	I	$\overline{TEST\ 2}$

DISPLAY CONTROL

CIRCUIT DESCRIPTION

Test mode

1) Method

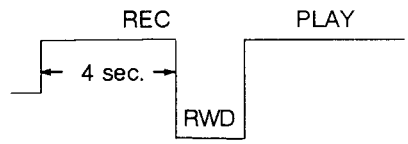
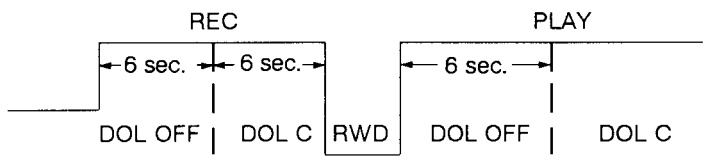
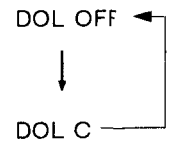
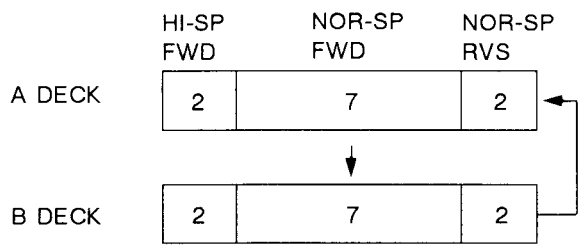
TEST 1 : While pressing "STOP" key, turn the AC ON.

TEST 2 : While pressing "one way mode" key,turn the AC ON.

2) Cancellation

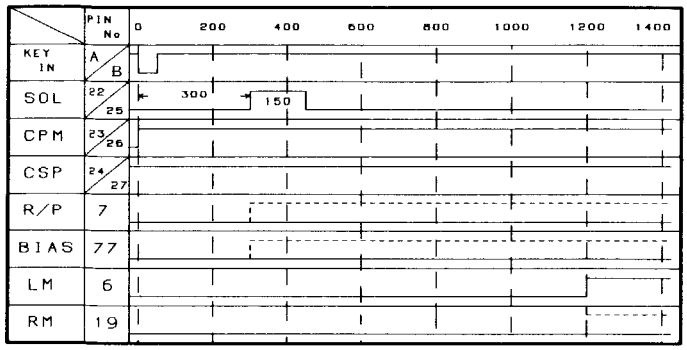
Power OFF

3) Operation

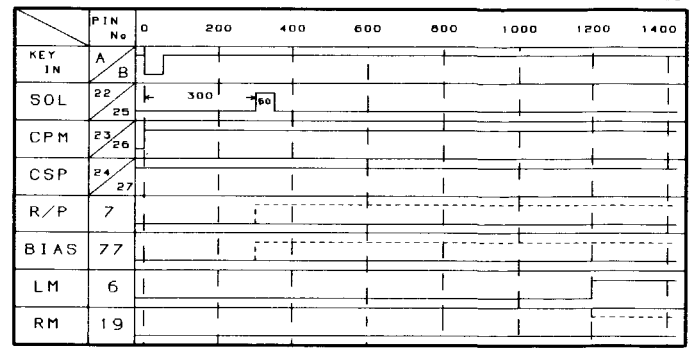
	NO	KEY	OPERATION	DISPLAY
TEST1	1	REC	4 sec. REC 	
	2	CCRS	12 sec. REC 	
	3	CRLS	A,B MECHA CHECK.(PLAY MODE) 	
	4		REEL PULS CHECK. REC INHIBIT SW CHECK.(B DECK)	FLASHING TAPE A , TAPE B LIGHT ◀ RVS ▶ FWD
TEST2	5	CCRS	INPUT LEVEL ATTENUATION. PRESSING THE "CCRS" KEY DURING IN REC MODE.	

CIRCUIT DESCRIPTION

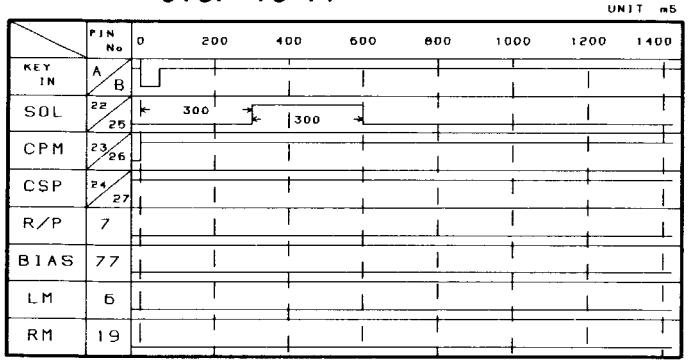
STOP TO FWD PLAY/REC(-----)



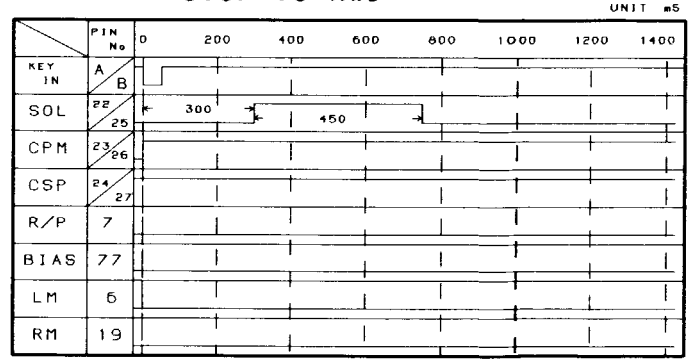
STOP TO RVS PLAY/REC(-----)



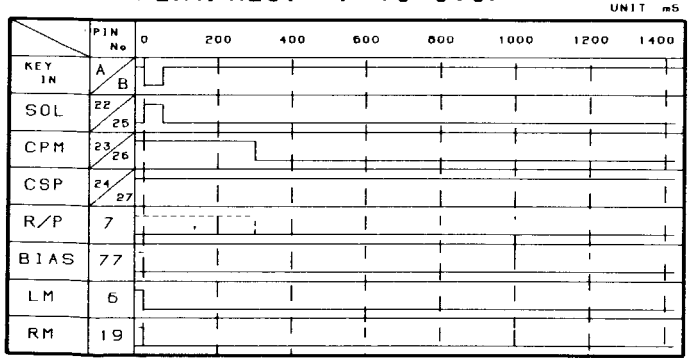
STOP TO FF



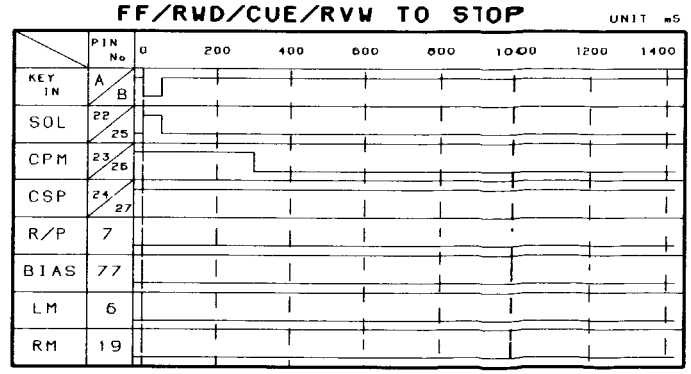
STOP TO RWD



PLAY/REC(-----) TO STOP

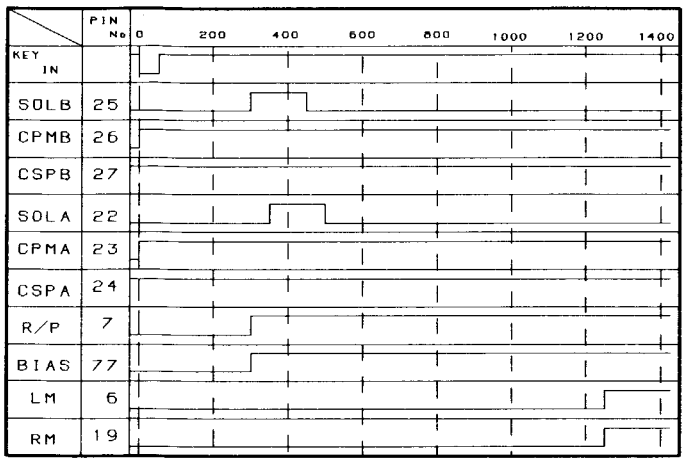


FF/RWD/CUE/RVW TO STOP

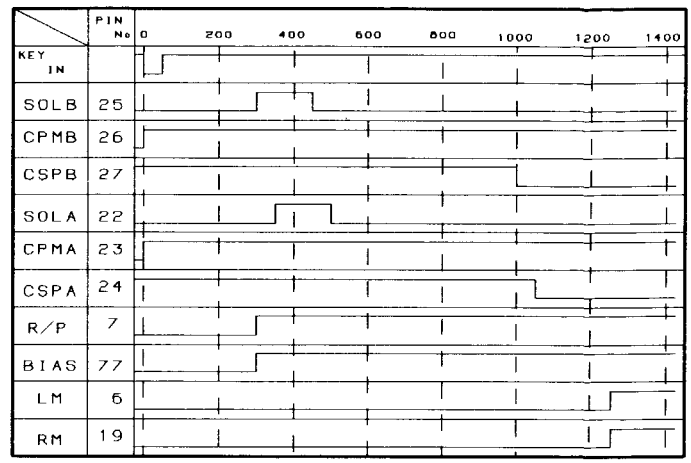


CIRCUIT DESCRIPTION

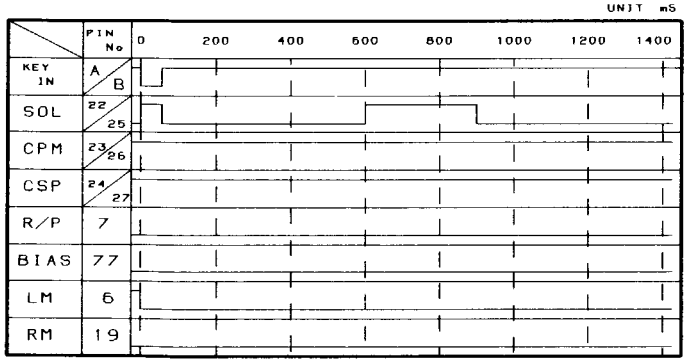
STOP TO NOR DUBBING



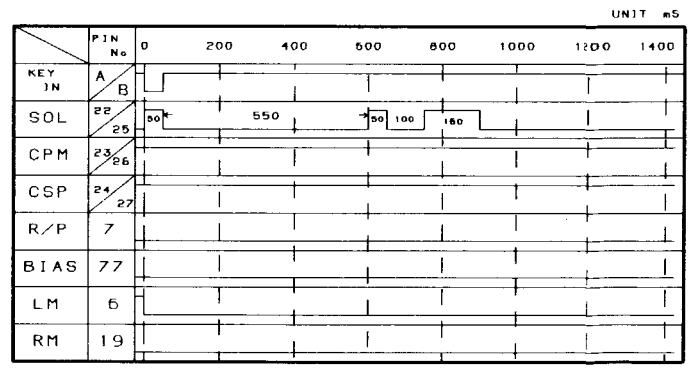
STOP TO HI DUBBING



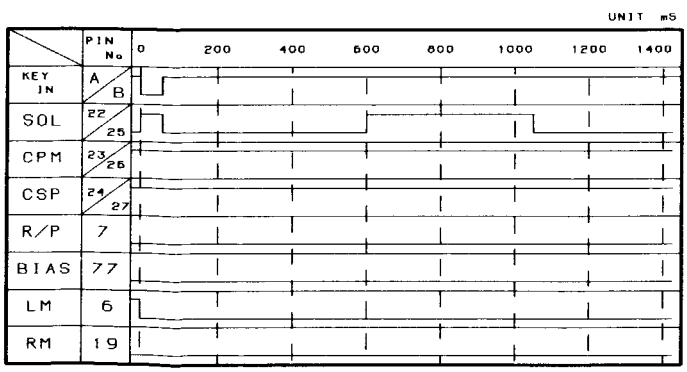
FWD PLAY TO CUE



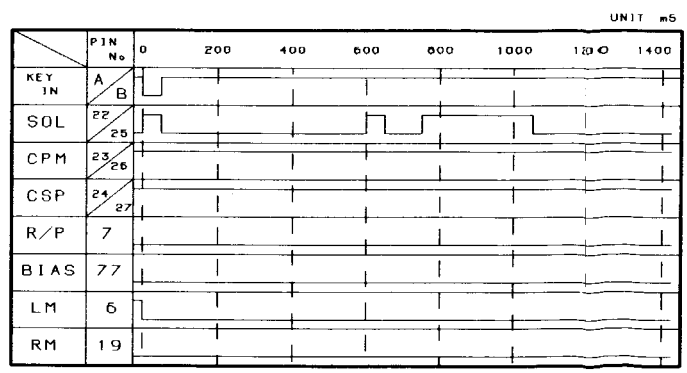
RVS PLAY TO CUE



FWD PLAY TO REVEW



RVS PLAY TO REVEW

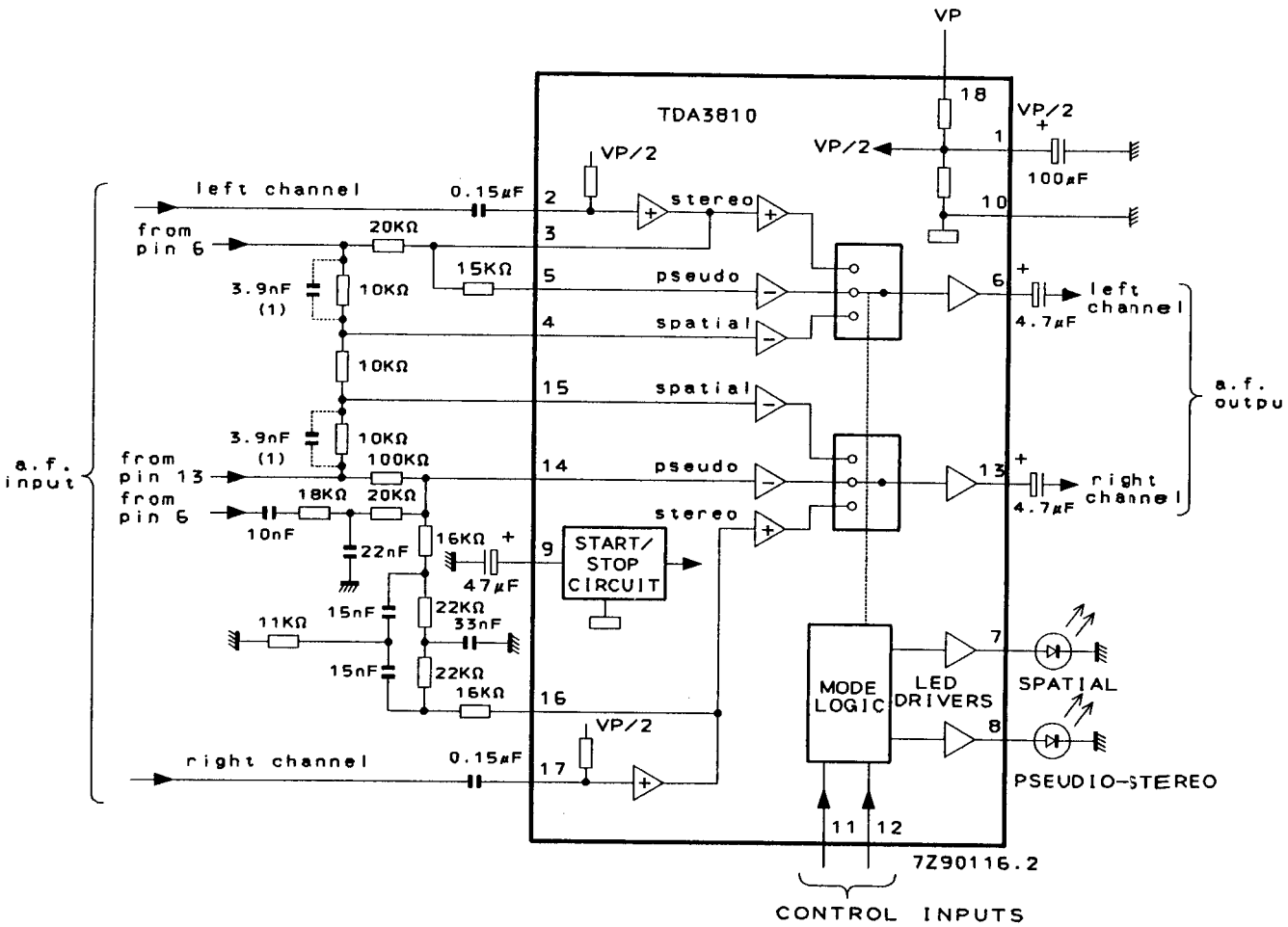


CIRCUIT DESCRIPTION

The TDA3810 integrated circuit provides spatial , stereo and pseuod-stereo sound for radio and television equipment.

Features

- Three switched functions: Spatial (widened stereo image)
  Stereo
  Pseudo-stereo (artificial stereo from a mono source)
- Offset compensated operational amplifiers to reduce switch noise
- LED driver outputs to facilitate indicator of selected operating mode
- Start/stop circuit to rediuce switch noise and to prevent LED-flicker
- TTL-compatible control inputs



Truth table

Mode	Control input state		LED Spatial	LED Pseudo
	pin 11	pin 12	pin 7	pin 8
Mono pseudo-stereo	HIGH	LOW	off	on
Spatial stereo	HIGH	HIGH	on	off
Stereo	LOW	X	off	off

MODE	PIN 11	PIN 12
ARENA	1	1
STADILIM	1	1
JAZZ	1	0
HIT-MASTER	1	0
OFF	0	0

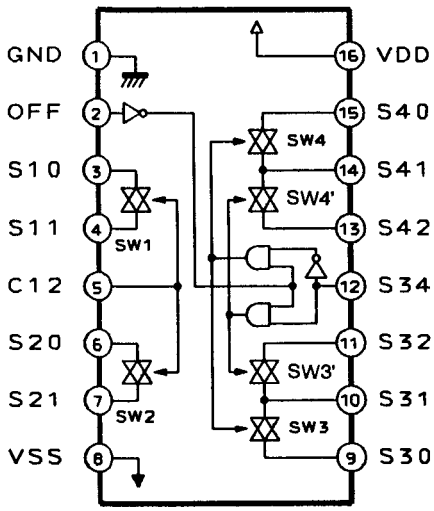
LOW =0 to 0,8 V (the less positive voltage)

HIGH=2V to 5,5 V (the more positive voltage)

X =don't care

CIRCUIT DESCRIPTION

TC9215P (SELECTOR)



Pin No.	Pin name	Function
1	GND	GND
2	OFF	Switch (3) (4) off input
3	S10	Switch (1) I/O
4	S11	
5	C12	Switch (1) (2) control
6	S20	Switch (2) I/O
7	S21	
8	Vss	Power supply (-)
9	S30	Switch (3) I/O
10	S31	
11	S32	
12	C34	Switch (3) (4) control
13	B42	Switch (4) I/O
14	B41	
15	B40	
16	VDD	Power supply (+)

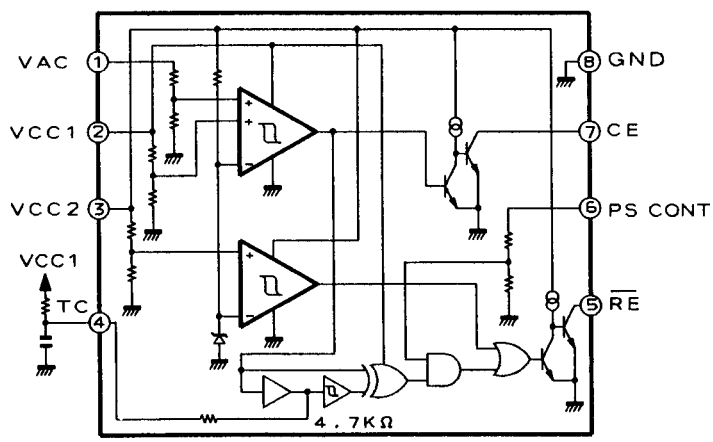
Truth value table

C12	SW1,SW2
H	ON
L	OFF

OFF	C34	B30-B31 B40-B41	B31-B32 B41-B42
L	L	ON	OFF
	H	OFF	ON
H	*	OFF	OFF

(* H or L)

PST620D (RESET IC)



PIN NO.	PIN NAME	FUNCTION
1	V_{AC}	Holds +2.0V detection voltage , conducts rapid power failure detection by monitoring the primary side of the AC power supply (which is the original source of all power) and the stabilizing power supply.
2	V_{CC1}	+5V main power supply
3	V_{CC2}	Backup power supply (connected to backup condensor)
4	T C	Pulse sharper pulse width setting pin (connect to condensor and resistor)
5	RE	Reset output
6	PS CONT	Pulse sharper output ON-OFF switch Hi: OFF Lo: ON
7	CE	Chip enable signal output
8	GND	GND (earth)

UD-300

CIRCUIT DESCRIPTION

FM, AM, MPX system IC: LA1851N

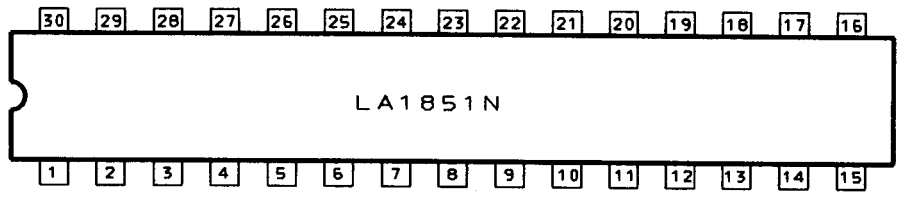
Function · FM: IF amprifier , Quadrant latchar detector , IF count buffer , S meter output , Tu indicator (variable sensitivity)

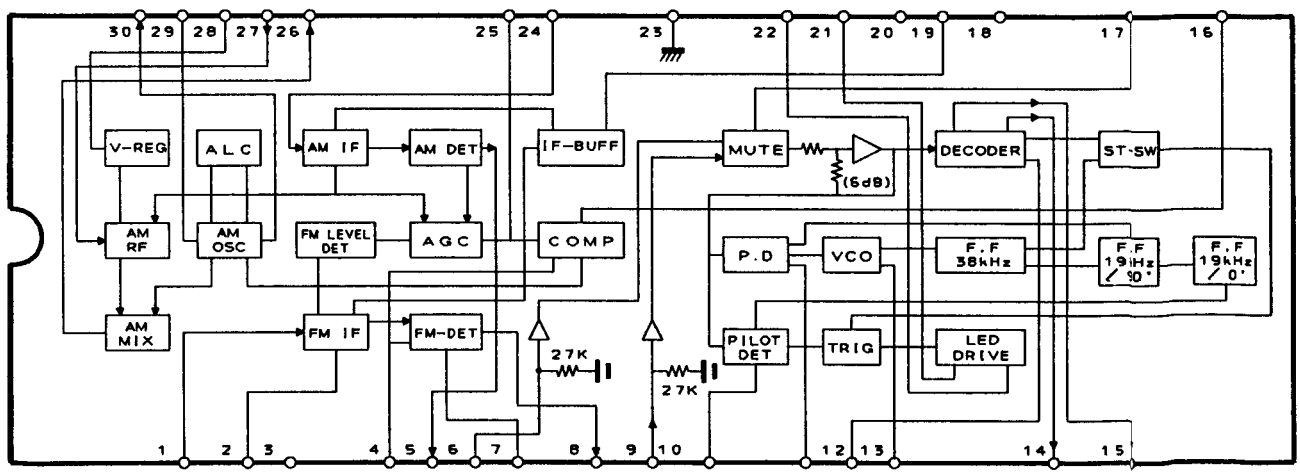
· AM: RF amplifier , mixer , oscillator ,oscillator buffer , IF amplifier , detector , AGC , IF count buffer , Tu indicator (variable sensitivity)

· MPX: PLL decorder , ST indicator , VCO stop mute, sepalation control,VCO nonadjust, forced monaural (VCO stop)

Salient features

- FM,AM tuner and MPX in a single chip
- MPX made nonadjusting
- Electronic synchronization compatible IF count buffer output (FM/AM)
- ST separation control
- Forced monaural , VCO stop





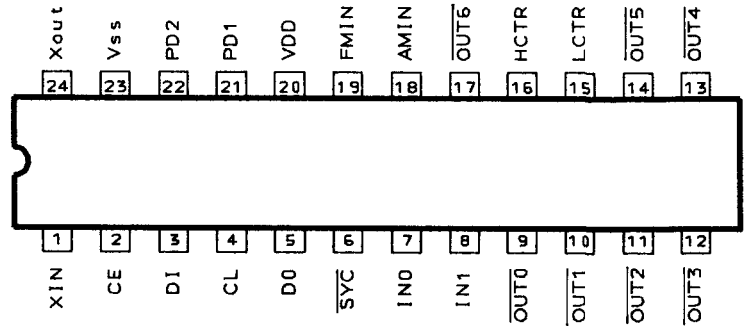
CIRCUIT DESCRIPTION

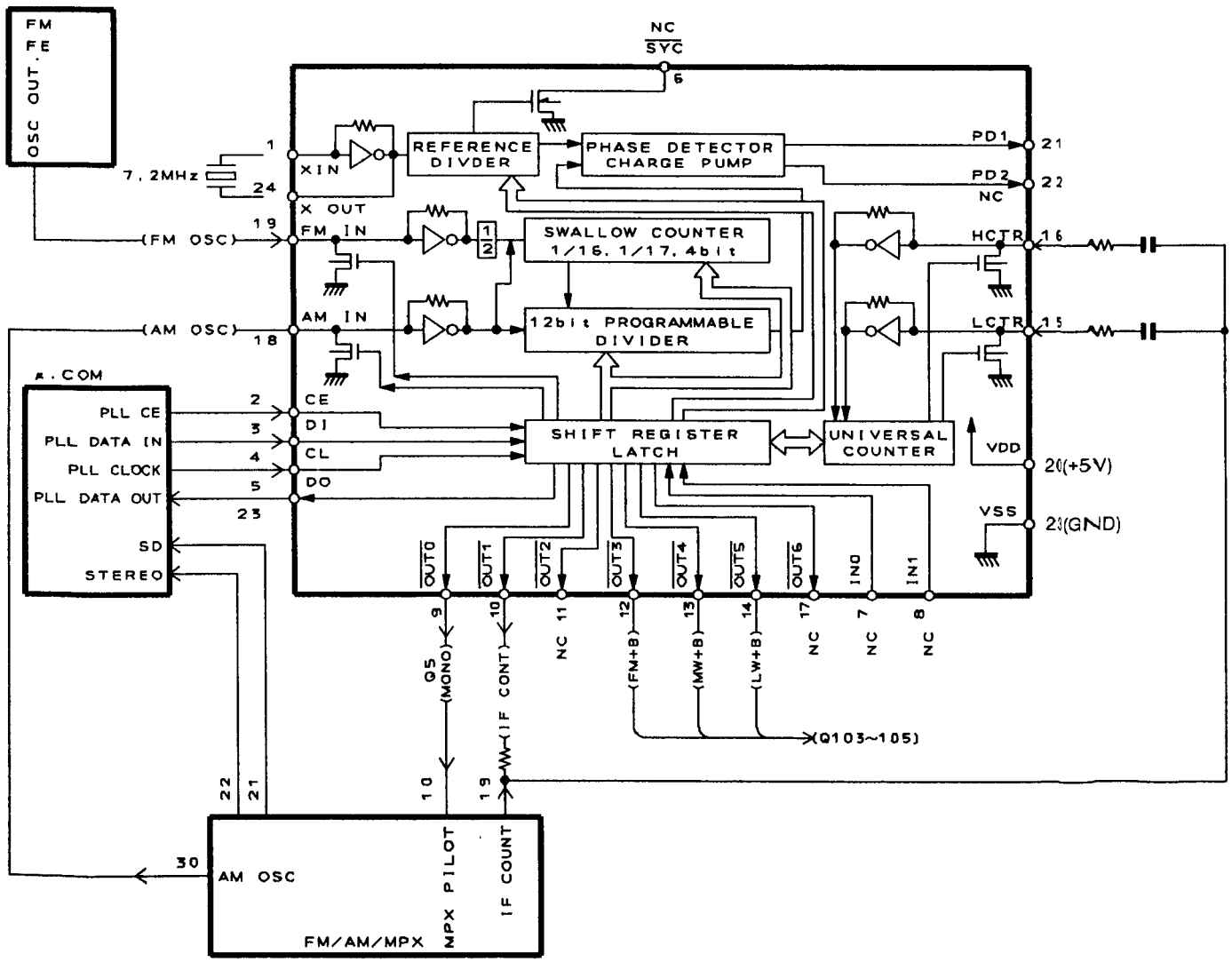
Pin description

Pin No.	Function	Remark
1	FM IF input	Input impedance:330Ω
2	FM IF bias	—
3	Vcc	—
4	FM AFC output	When FM AFC is detuned,the ST LED goes off and the forced monaural mode is set
5	AM demodulation output	
6	MPX AM DET input	MPX section,AM demodulation input. Input impedance:27kΩ
7	FM descrimination output	
8	FM demodulation output	Output impedance:5kΩ
9	MPX FM DET input	MPX selection. FM demodulation input. Input impedance
10	MPX Pilot synchronism detection filter	MPX VCO stops by shorting the voltage at pin 10 to the VCC line at pin 3. A 3.3 kΩ current limiting resistor is required.
11	MPX PLL loop filter	—
12	MPX separation control	—
13	MPX VCO	Ceramic oscillator
14	MPX L-ch output	—
15	MPX R-ch output	—
16	AM SD ADJ	—
17	MPX AF muting drive	V_{HI} (≧ 1.5V) : Mute ON V_{LO}(< 1.5V) : Mute OFF
18	AM/FM change	V_{HI} (≧ 1.5V) : FM V_{LO}(< 1.5V) : AM
19	AM/FM IF count output SW combined use	V_{HI} (≧ 1.5V) : IF CNT ON V_{LO}(< 1.5V) : IF CNT OFF
20	TU/ST LED	V_{HI} (≧ 1.5V):LED forced off (Forced monaural mode) V_{LO}(< 1.5V):Normal
21	AM/FM TU LED	—
22	MPX ST LED	—
23	AM/FM MPX GND	—
24	AM IF input	Input impedance:2kΩ
25	AM AGC output FM S meter output	—
26	AM MIXER output	—
27	AM RF input	—
28	V Reg	Vreg=2.3V
29	AM OSC	—
30	AM OSC buffer output FM SD ADJ combined use	—

CIRCUIT DESCRIPTION

PLL IC: LC7218





CIRCUIT DESCRIPTION

Servo Signal Processor : CXA1372Q (IC2)

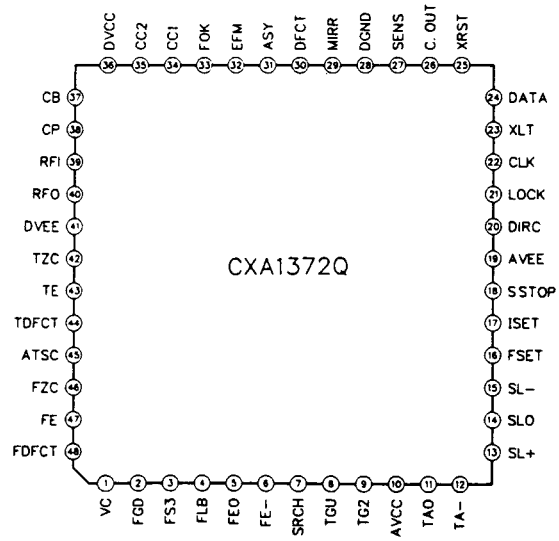
Outline

CXA1372Q is a bipolar IC developed to be used for processing of the RF signal (Focus OK, mirror, defect, comparator of EFM) and servo control.

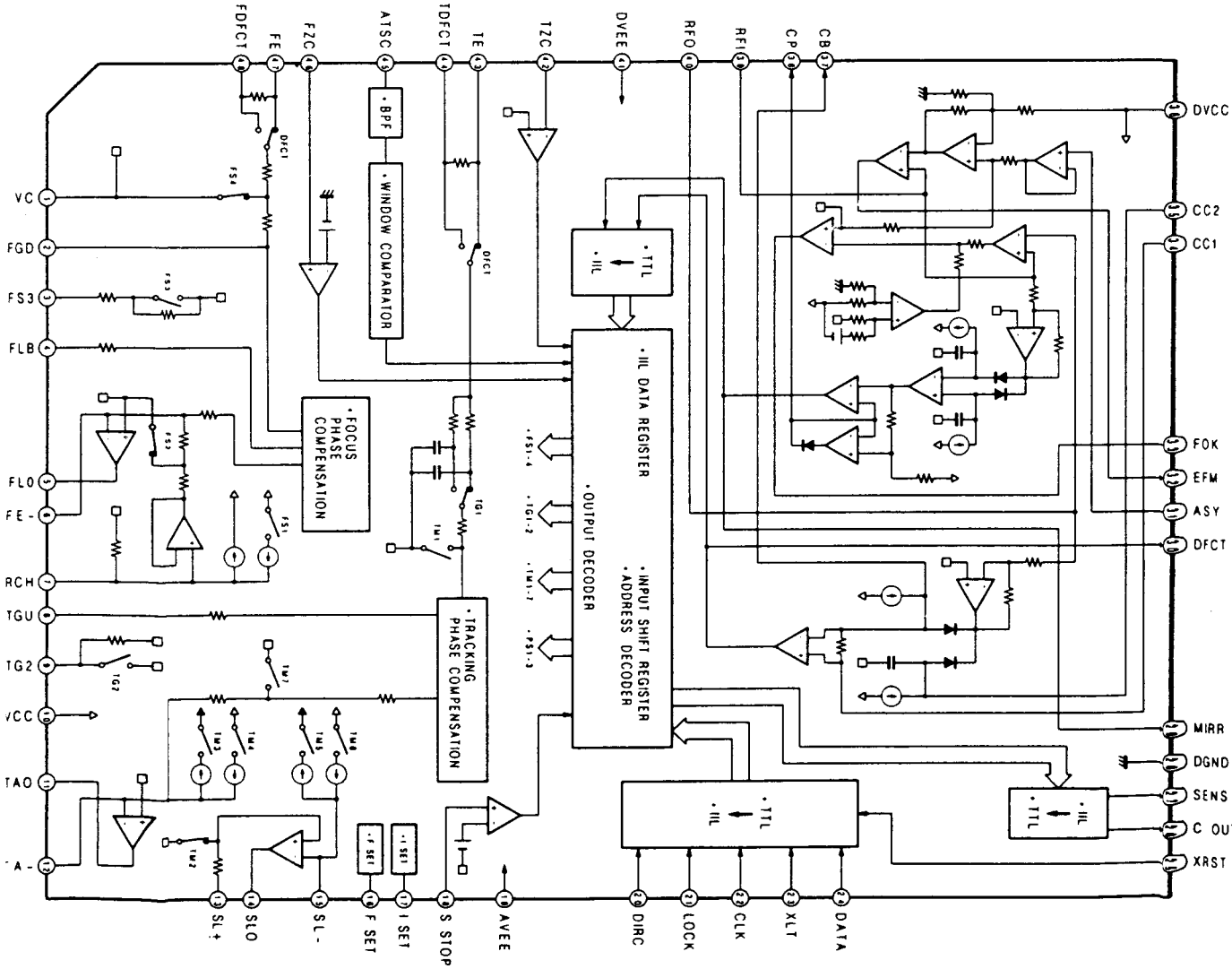
Functions

- Auto asymmetry control
- Focus OK detection circuit
- Mirror detection circuit
- Defect detection and countermeasure circuit
- EFM comparator
- Focus servo control
- Tracking servo control
- Thread servo control

Pin connections


DVCC CC2 CC1 FOK EFM ASY DFCT MIRR DGND SENS C. OUT XRST
CB CP RFI RFO DVEE TZC TE TDFCT ATSC FZC FE FDFCT
DATA XLT CLK LOCK DIRC AVEE SSTOP ISET FSET SL- SLO SL+
CXA1372Q
VC FGD FS3 FLB FEO FE- SRCH TGU TG2 AVCC TAO TA-

Block diagram


FDFCT FE FZC ATSC TDFCT TE TZC DVEE RFO RFI CP CB
DVCC CC2 CC1 FOK EFM ASY DFCT MIRR DGND SENS C OUT XRST
VC FGD FS3 FLB FLO FE- RCH TGU TG2 VCC TAO TA-
SL+ SLO SL- F SET I SET S STOP AVEE DIRC LOCK CLK XLT DATA
BPF
WINDOW COMPARATOR
FOCUS PHASE COMPENSATION
TRACKING PHASE COMPENSATION
IIL DATA REGISTER
OUTPUT DECODER
INPUT SHIFT REGISTER
ADDRESS DECODER
TTL
IIL

CIRCUIT DESCRIPTION

Pin functions

Pin No.	Pin name	I/O	Function
1	VC	I	Middle-point voltage input terminal. When two power sources are used : GND, when single power source is used : (Vcc+GND)/2.
2	FGD	I	When lowering the high-band gain of the focus servo, insert a capacitor between this terminal and terminal No. 3.
3	FS3	I	Change the high-band gain of the focus servo by turning FS3 on and off.
4	FLB	I	Outside terminal of time constant for raising the low-band of the focus servo.
5	FEO	O	Focus drive output.
6	FE–	I	Inverted input terminal of focus amplifier.
7	SRCH	I	Outside terminal of time constant for making focus search waveform.
8	TGU	I	Outside terminal of time constant for changing high-band gain of tracking.
9	TG2	I	Outside terminal of time constant for changing high-band gain of tracking.
10	AVCC		
11	TAO	O	Tracking drive output.
12	TA–	I	Inverted input terminal of tracking amplifier.
13	SL+	I	Non-inverted input terminal of thread amplifier.
14	SLO	O	Thread drive output.
15	SL–	I	Inverted input terminal of thread amplifier.
16	FSET	I	Terminal for setting the peak for phase compensation of focus tracking.
17	ISET	I	Current for determining the height of the focus search track jump thread kick is applied.
18	SSTOP	I	Terminal for ON/OFF detecting signal of limit switch for detecting the most inside line of disc.
19	AVEE		
20	DIRC	I	Used to jump over one track. 47kΩ pull-up resistor is inserted.
21	LOCK	I	When "L", thread runaway-preventive circuit operates. 47kΩ pull-up resistor is inserted.
22	CLK	I	Clock input for transferring the serial data from CPU (having no pull-up resistors).
23	XLT	I	Latch input from CPU (having no pull-up resistors).
24	DATA	I	Serial data input from CPU (having no pull-up resistors).
25	XRST	I	Reset when reset input terminal is at "L" (having no pull-up reisitors).
26	C. OUT	O	Signal output for counting tracks.
27	SENS	O	Outputs FZC, AS, TZC, SSTOP, etc. on receipt of command from CPU.
28	DGND		
29	MIRR	O	Output terminal of MIRR comparator. (DC voltage :· Load of 10kΩ connected)
30	DFCT	O	Output terminal of DEFECT comperator. (DC voltage : Load 10kΩ connected)
31	ASY	I	Input terminal of auto asymmetry control.
32	EFM	O	Output terminal of EFM comparator. (DC voltage : Load of 10kΩ connected)
33	FOK	O	Output terminal of focus OK comparator. (DC voltage : Load of 10kΩ connected)
34	CC1	I	DEFECT bottom hold output terminal.
35	CC2	O	Terminal in which DEFECT bottom hold output is input after capacitive coupling.
36	DVCC		
37	CB	I	Terminal to which DEFECT bottom hold capacitor is connected.
38	CP	I	Terminal for connecting MIRR hold comparator. Non-inverted input terminal of MIRR comparator.
39	RFI	I	Terminal in which output of RF summing amplifier is input after capacitive coupling.
40	RFO	O	Output terminal of RF summing amplifier. Check point of eye pattern.
41	DVEE		
42	TZC	I	Input terminal of tracking zero cross comparator.
43	TE	I	Input terminal of tracking error.
44	TDFCT	I	Terminal for connecting the capacitor for time constant in case of defect.
45	ATSC	I	Input terminal of window comparator for detecting ATSC.
46	FZC	I	Terminal for inputting the focus zero cross comparator.
47	FE	I	Input terminal of focus error.
48	FDFCT	I	Terminal for connecting capacitor for time constant in case of defect.

CIRCUIT DESCRIPTION

Digital Signal Processor : CXD2500AQ (IC6)

Outline

The CXD2500AQ is a digital signal processing LSI for a compact disc player, which has the following functions.

- A wide frame jitter margin realized by 32-KRAM (±28 frames)
- Bit clocks for strobing EFM signal are generated by the digital PLL, and the capture range is ±150kHz minumum
- Demodulation of EFM data
- Protection and reinforcement of EFM frame sync signal
- Strong error correction by refined super strategy. C1 : Double correction, C2 : Quadruple correction
- Double-speed replay and variable pitch replay
- Reduction of noise generation at track jumps
- Auto zero cross muting
- Demodulation of sub-code and detection of errors in sub-code Q data
- Digital spindle servo (Having over-sampling filter)
- 16-bit traverse counter
- CPU interface by serial bus
- A built-in servo auto sequencer
- Output for digital audio interface
- Built-in digital level meter and peak meter
- Applicable to bilingual system

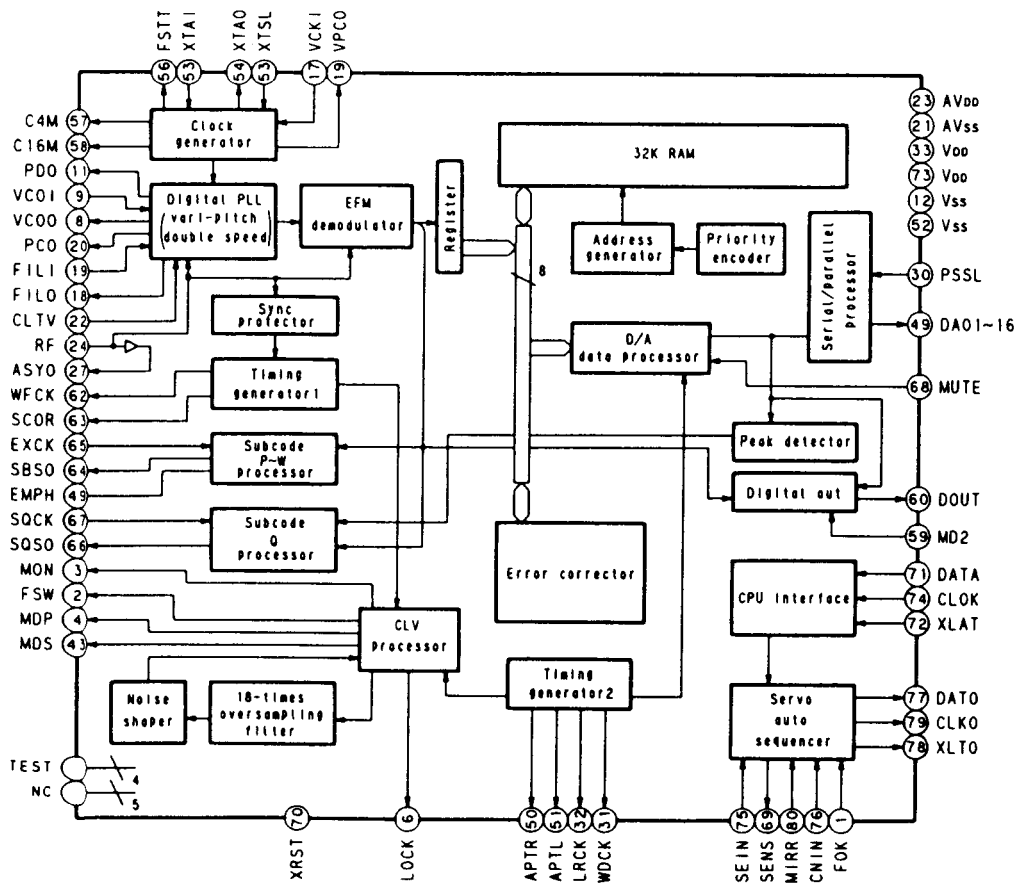
Features

- One chip of this LSI can process all the digital signals used for replay
- Integration level can be heightened because of the built-in RAM

Structure

Silicon gate CMOS

Block diagram



CIRCUIT DESCRIPTION

Pin functions

Pin No.	Pin name	I/O	Function
1	FOK	I	Focus OK input terminal. Used for SENS output and servo auto sequencer.
2	FSW	O	Output for changing output filter of spindle motor.
3	MON	O	ON/OFF control output of spindle motor.
4	MDP	O	Servo control of spindle motor.
5	MDS	O	Servo control of spindle motor.
6	LOCK	O	Outputs "H", when GFS is sampled at 460Hz and it is "H". Output "L", if "L" is detected eight times continuously.
7	NC	–	Not used.
8	VCOO	O	Oscillation circuit output for analog EFM PLL.
9	VCOI	I	Oscillation circuit input for analog EFM PLL. f_{LOCK} = 8.6436MHz
10	TEST	I	Test terminal, normally grounded.
11	PDO	O	Charge pump output for analog EFM PLL.
12	V_{SS}	–	GND.
13~15	NC	–	Not used.
16	VPCO	O	PLL charge pump output for variable pitch.
17	VCKI	I	Clock input $f_{Ccenter}$ = 16.9344MHz from outside VCO for variable pitch.
18	FILO	O	Filter output for master PLL (Slave = Digital PLL).
19	FILI	I	Filter input for master PLL.
20	PCO	O	Charge pump output for master PLL.
21	AV_{SS}	–	Analog GND.
22	CLTV	I	VCO control voltage input for master.
23	AV_{DD}	–	Analog power source (+5V).
24	RF	I	EFM signal input.
25	TEST2	I	Used for grounding.
26	TEST3	I	Used for grounding.
27	ASYO	O	EFM full swing output ("L" = V_{SS}, "H" = V_{DD}).
28	TEST4	I	Used for grounding.
29	NC	–	Not used.
30	PSSL	I	Audio data output mode changing input. Set to "L" for serial output and "H" for parallel output.
31	WDCK	O	D/A interface for 48-bit slot. Word clock f = 2 Fs
32	LRCK	O	D/A interface for 48-bit slot. LR clock f = Fs
33	V_{DD}	–	Source voltage (+5V).
34	DA16	O	Outputs DA16 (MSB) when PSSL = 1. Outputs serial data of 48-bit slot when PSSL = 0. (2s' COMP, MSB first)
35	DA15	O	Outputs DA15 when PSSL = 1. Outputs bit clock of 48-bit slot when PSSL = 0.
36	DA14	O	Outputs DA14 when PSSL = 1. Outputs serial data of 64-bit slot when PSSL = 0. (2s' COMP, LSB first)
37	DA13	O	Outputs DA13 when PSSL = 1. Outputs bit clock of 64-bit slot when PSSL = 0.
38	DA12	O	Outputs DA12 when PSSL = 1. Outputs LR clock of 64-bit slot when PSSL = 0.
39	DA11	O	Outputs DA11 when PSSL = 1. Outputs GTOP when PSSL = 0.
40	DA10	O	Outputs DA10 when PSSL = 1. Outputs XUGF when PSSL = 0.
41	DA09	O	Outputs DA09 when PSSL = 1. Outputs XPLCK when PSSL = 0.
42	DA08	O	Outputs DA08 when PSSL = 1. Outputs GFS when PSSL = 0.
43	DA07	O	Outputs DA07 when PSSL = 1. Outputs RFCK when PSSL = 0.
44	DA06	O	Outputs DA06 when PSSL = 1. Outputs C2P0 when PSSL = 0.
45	DA05	O	Outputs DA05 when PSSL = 1. Outputs XRAOF when PSSL = 0.
46	DA04	O	Outputs DA04 when PSSL = 1. Outputs MNT3 when PSSL = 0.
47	DA03	O	Outputs DA03 when PSSL = 1. Outputs MNT2 when PSSL = 0.
48	DA02	O	Outputs DA02 when PSSL = 1. Outputs MNT1 when PSSL = 0.
49	DA01	O	Outputs DA01 when PSSL = 1. Outputs MNT0 when PSSL = 0.

CIRCUIT DESCRIPTION

Pin No.	Pin name	I/O	Function
50	APTR	O	Control output for correcting aperture. Set to "H" when Rch.
51	APTL	O	Control output for correcting aperture. Set to "H" when Lch.
52	Vss	–	GND.
53	XTAI	I	X'tal oscillation circuit input of 16.9344MHz, or input of 33.8688MHz.
54	XTAO	O	X'tal oscillation circuit output of 16.9344MHz.
55	XTSL	I	X'tal selection input terminal. Set to "L" when x'tal is 16.9344MHz, and to "H" when 33.8688MHz.
56	FSTT	O	2/3 division output of terminals 53 and 54. Does not vary as pitch varies.
57	C4M	O	4.2336MHz output. Varies as pitch varies.
58	C16M	O	16.9344MHz output. Varies as pitch varies.
59	MD2	I	Digital-out ON/OFF control. Turns on when "H", and off when "L".
60	DOUT	O	Digital-out output terminal.
61	EMPH	O	Outputs "H" when playing disc has emphasis, and "L" when the latter does not.
62	WFCK	O	WFCK (Write Frame Clock) output.
63	SCOR	O	Outputs "H" when sub-code sync S0 or S1 is detected.
64	SBSO	O	Serial output of Sub P ~ W.
65	EXCK	I	Clock input for SBSO read out.
66	SQSO	O	Sub Q 80-bit and PCM peak, and level data 16-bit output.
67	SQCK	I	Clock input for SQSO read out.
68	MUTE	I	Mutes when "H", and resets when "L".
69	SENS	–	Outputs SENS to CPU.
70	XRST	I	Resets system when "L".
71	DATA	I	Inputs serial data from CPU.
72	XLAT	I	Latches serial data when latch input from CPU falls.
73	VDD	–	Power supply (+5V).
74	CLOK	I	Serial data transfer clock input from CPU.
75	SEIN	I	Input SENS from SSP.
76	CNIN	I	Inputs signals for counting number of track jumps.
77	DATO	O	Outputs serial data to SSP.
78	XLTO	O	Outputs serial data latch to SSP, and latches at fall.
79	CLKO	O	Outputs serial data transfer clock to SSP.
80	MIRR	I	Inputs mirror signal. Auto sequencer uses this for jumping 128 or more tracks.

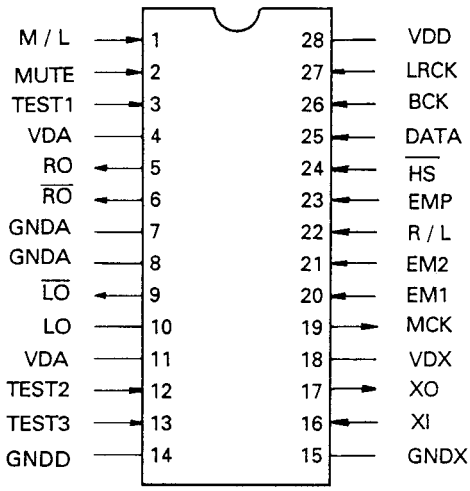
Notes

- The 64-bit slot is 2's compliment output of LSB first, and the 48-bit slot is 2's compliment output of MSB first.
- GTOP is used to monitor the protective condition of the frame sync. ("H" : Sync protective window is released.)
- XUGF is the frame sync obtained from the EFM signal, which is a negative pulse. This is the signal before the protection of sync.
- XPLCK is the inverted clock of EFM PLL. PLL is so made that the falling edge will be matched to the change point of the EFM signal.
- The GFS becomes "H" when the frame sync is matched to the internal protection timing.
- RFCK is a signal having the period of 136μ obtained by the accuracy of X'tal.
- C2P0 is a signal indicating the error condition of data.
- XRAOF is a signal generated when 32 KRAM exceeds the jitter margin of ±28F.

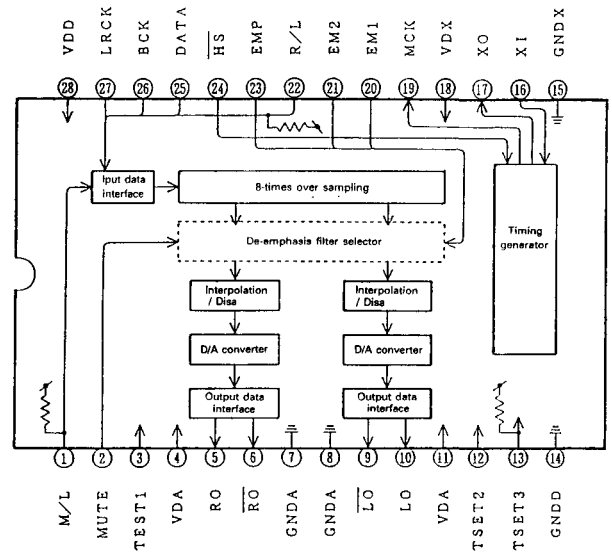
CIRCUIT DESCRIPTION

Converter with Digital Filter : TC9237N (IC7)

Terminal connection diagram



Block diagram


VDD LRCK BCK DATA HS EMP R/L EM2 EM1 MCK VDX XO XI GNDX
28 27 26 25 24 23 22 21 20 19 18 17 16 15
Iput data interface
8-times over sampling
De-emphasis filter selector
Timing generator
Interpolation / Disa
Interpolation / Disa
D/A converter
D/A converter
Output data interface
Output data interface
1 2 3 4 5 6 7 8 9 10 11 12 13 14
M/L MUTE TEST1 VDA RO RO GNDA GNDA LO LO VDA TSET2 TSET3 GNDD

Explanation of terminals

Pin No.	Pin name	I/O	Function
1	M/L	I	Selection of MSB first or LSB first. H = MSB, L = LSB.
2	MUTE	I	Muting control. H = Mute ON
3	TEST1	I	Test terminal (connect to H level).
4	VDA	–	Power supply for analog circuit (R-ch).
5	RO	O	R-ch data output.
6	$\overline{RO}$	O	Inverted R-ch output.
7	GNDA	–	Ground for analog circuit (R-ch).
8	GNDA	–	Ground for analog circuit (L-ch).
9	$\overline{LO}$	O	Inverted L-ch data output.
10	LO	O	L-ch data output.
11	VDA	–	Power supply for analog circuit (L-ch).
12	TEST2	I	Test terminal (connect to L level).
13	TEST3	I	Test terminal (connect to H level or open circuit).
14	GND	–	Ground for logic.
15	GNDX	–	Ground for oscillation.
16	XI	I	Generation of clock freq (384fs).
17	XO	O	Generation of clock freq (384fs).
18	VDX	–	Power supply for oscillation.
19	MCK	O	Clock output of system (384fs).
20, 21	EM1, 2	I	De-emphasis filter selector.
22	R / L	I	R / L-ch data selector.
23	EMP	I	De-emphasis filter ON / OFF selector (H = ON, L = OFF).
24	HS	I	Normal or Double speed selector (H = Normal, L = Double).
25	DATA	I	Data input.
26	BCK	I	Bit clock input.
27	LRCK	I	LR clock input.
28	V_{DD}	–	Power supply for logic.

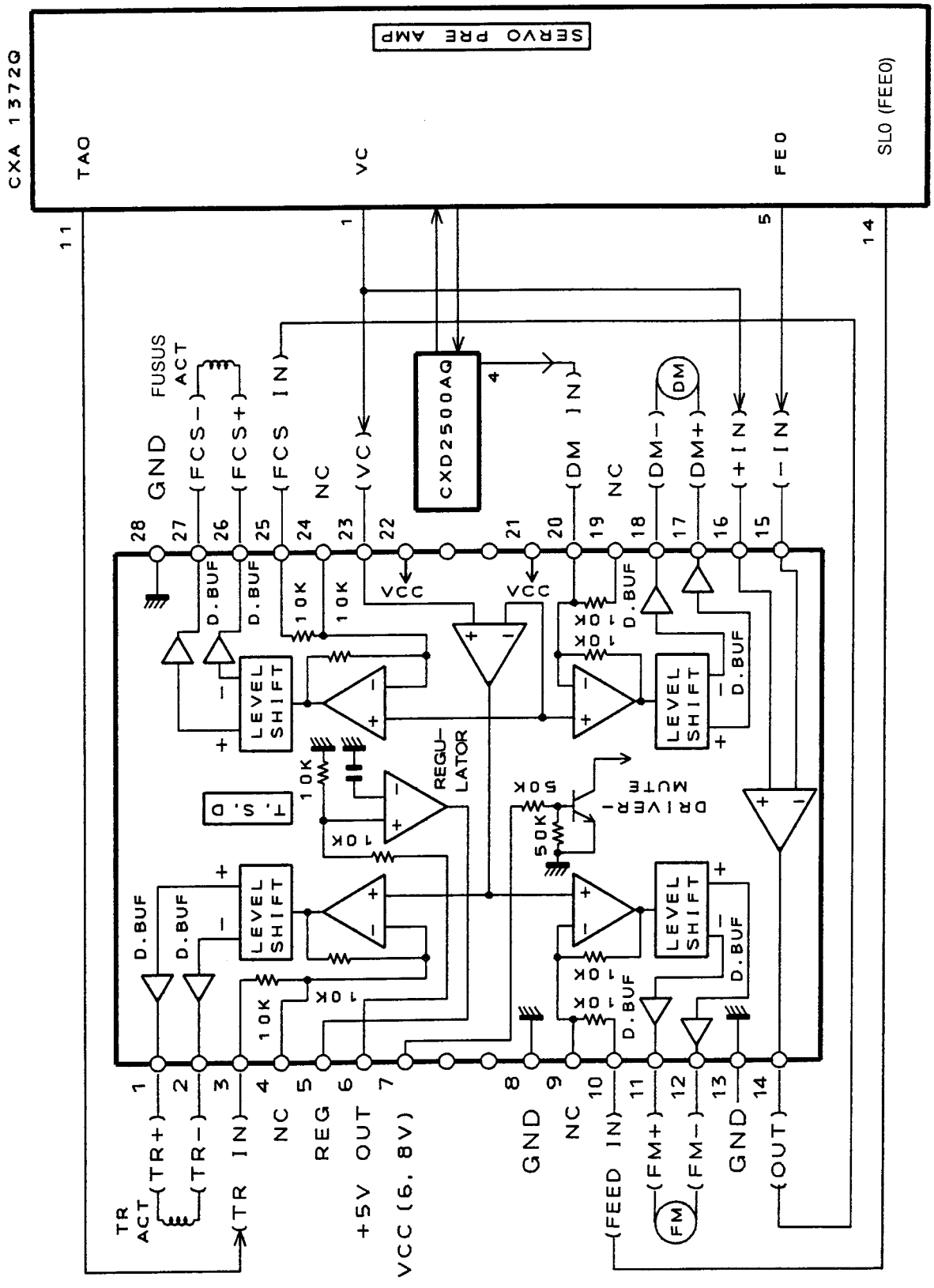
EM1	L	L	H	H
EM2	L	H	H	L
Mode	44.1kHz		32kHz	48kHz

R / L	LRCK	
	LOW	HIGH
LOW	R-ch data	L-ch data.
HIGH	L-ch data	R-ch data.

CIRCUIT DESCRIPTION

Power Driver for CD Player:BA6296FP

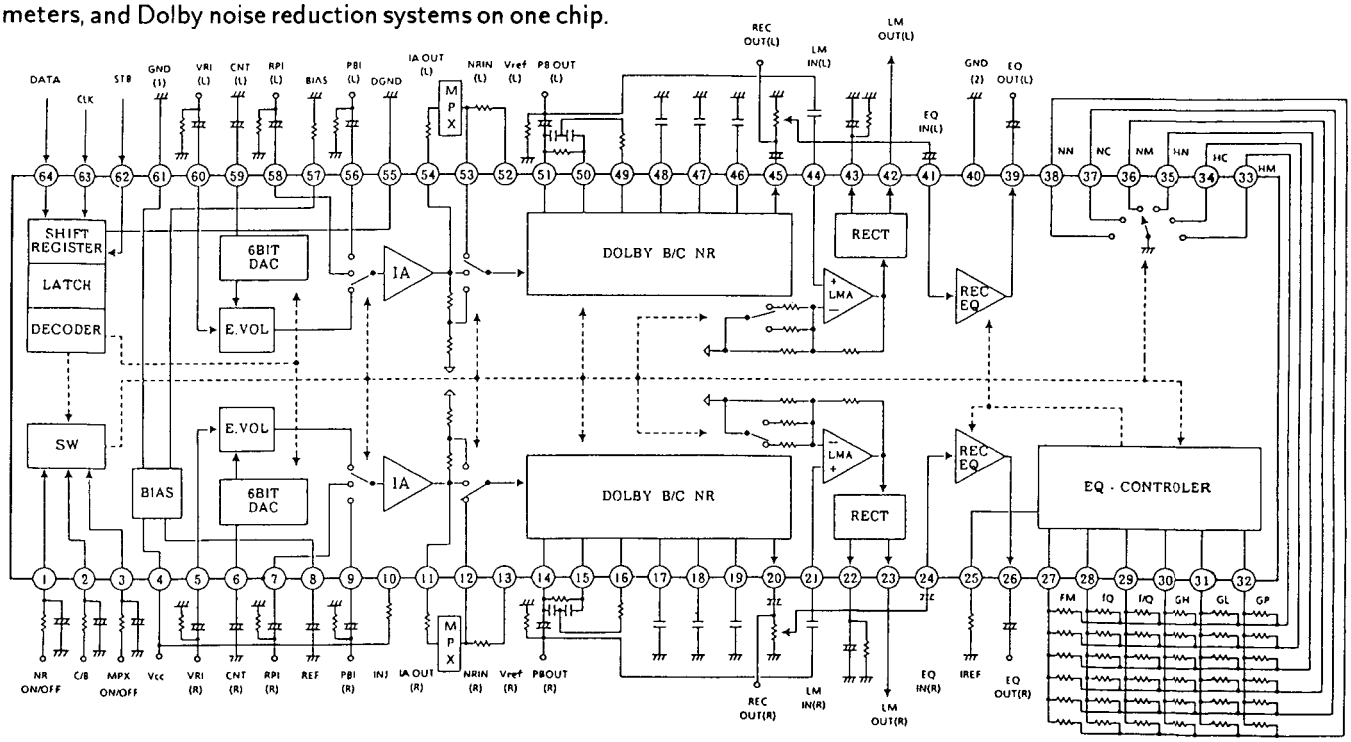
BA6296FP is 4ch BTL driver to drive the actuator and motor of CD player.



CIRCUIT DESCRIPTION

Audio Signal Processing System IC for Cassette Deck (HA12157NT)

The HA12157NT is an audio signal processing LSI chip integrates potentiometers, recording equalizers, level meters, and Dolby noise reduction systems on one chip.



Pin No.	Name	Function
1	NR ON/OFF	Mode Control input
2	C/B	
3	MPX ON/OFF	
4	VCC	Power Supply
5	VRI	Volume input
60		
6	CNT	DAC output Volume control input
59		
7	RPI	Recording input
58		
8	REF	Ripple filter
9	PBI	Playback input
56		
10	INJ	Injection current input for I_2L
11	IA OUT	Input amplifier output
54		
12	NR IN	Noise reduction processor input
53		
13	VREF	Reference voltage buffer output
52		
14	PB OUT	Playback (Decode) output
51		
15	SS1	Spectral skewing amplifier input
50		
16	SS2	Spectral skewing amplifier output
49		
17	CCR	Current controlled resistor output
48		
18	HLS DET	Time constant pin for rectifier
47		
19	LLS DET	
46		

Pin No.	Name	Function
20	REC OUT	Recording (Encode) output
45		
21	LM IN	Level meter input
44		
22	LMD	Time constant pin forlevel meter
43		
23	LM OUT	Level meter output
42		
24	EQ IN	Equalizer input
41		
25	IREF	EQ reference current input
26	EQ OUT	Equalizer output
39		
27	FM	EQ parameter currentinput
28	fQ	
29	f/Q	
30	GH	
31	GL	
32	GP	
33	HM	EQ parameter selector
34	HC	
35	HN	
36	NM	
37	NC	
38	NN	
40	GND	Ground
61		
55	D GND	Digital (Logic) ground
57	BIAS	Dolby NR reference curren t input
62	STB	Mode control input
63	CLK	
64	DATA	

CIRCUIT DESCRIPTION

Operating Mode Control

Electronic switches are used in the HA12157. Noise reduction ON/OFF, C/B, and Multiplex ON/OFF signals controlled by parallel data (DC voltage) and a switch controlled by serial data are provided in the operating mode.

Control Using Parallel Data

Dolby noise reduction and multiplex filter are controlled by the input signal at pins ①, ②, and ③.

Pin No.	Lo	Hi
①	NR-OFF	NR-ON
②	B-NR	C-NR
③	MPX-ON	MPX-OFF

Serial Data Format

An 8-bit shift register is used as the serial data format. The shift register fetches CLK and DATA signals only when the STB signal is high, then latches data at the falling edge of the STB signal.

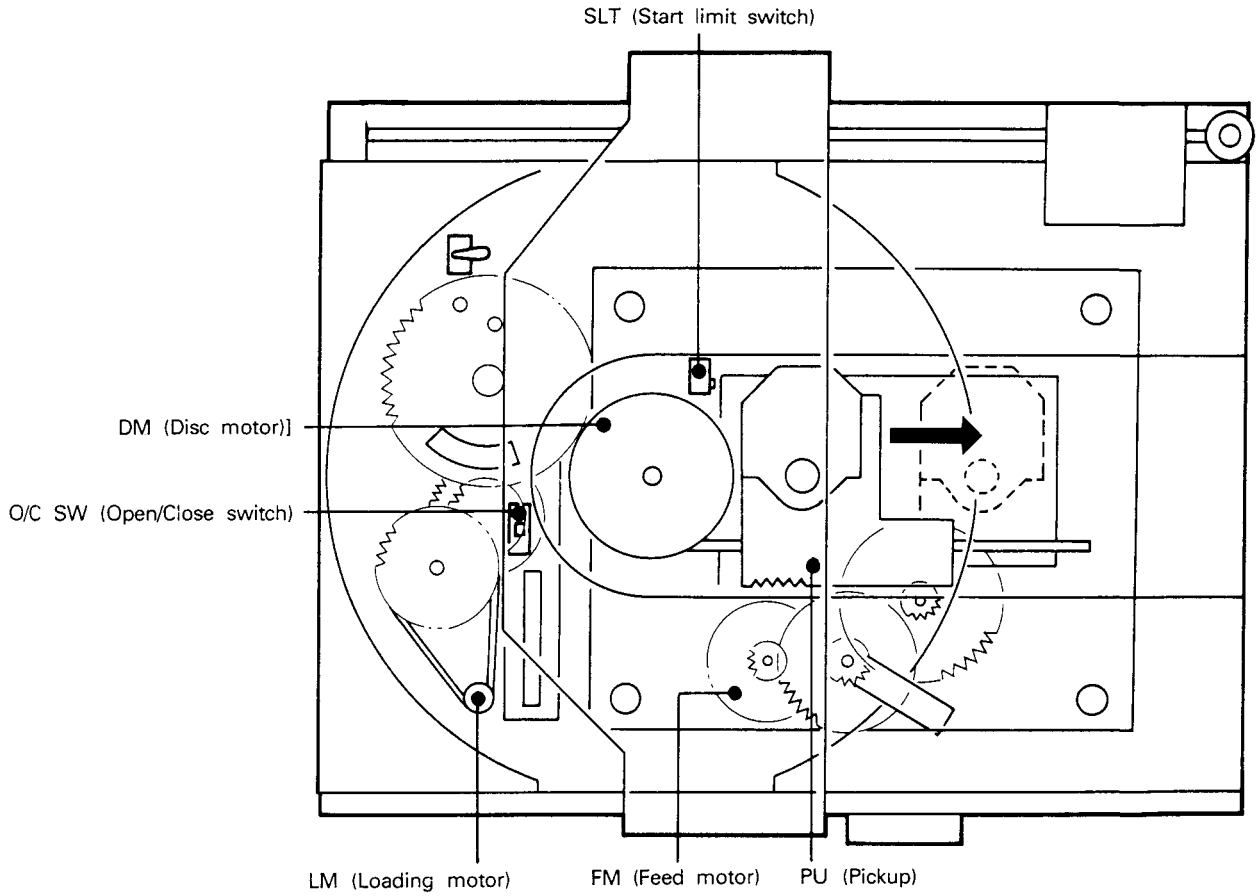
bit No.	Control register			Volume register		
0	TAPE SELECT 1	H	TS 1 / TS 2 — H: H = METAL, H = L = CrO_2, L = NORMAL	DAC 0		
		L				
1	TAPE SELECT 2	H		DAC 1		
		L				
2	TAPE SPEED	H	Twice normal speed selection	DAC 2		
		L	Normal speed selection			
3	METER SENSITIVITY	H	Meter sensitivity improved by 20 dB	DAC 3		
		L	Meter sensitivity normal			
4	INPUT SELECT 1	H	IS 1 / IS 2 — H: H = PBI, H = L = RPI, L = VRI	DAC 4		
		L				
5	INPUT SELECT 2	H		DAC 5		
		L				
6	REC/PB	H	Playback mode selection	R/L SELECT	H	R-channel register selection
		L	Recording mode selection		L	L-channel register selection
7	REGISTER SELECT	H	Control register selection	REGISTER SELECT	L	Volume register selection

bit No. 5	4	3	2	1	0	Gain
L	L	L	L	L	L	High
L	L	L	L	L	H	
L	L	L	L	H	L	
L	L	L	L	H	H	
H	H	H	H	L	H	
H	H	H	H	H	L	Low
H	H	H	H	H	H	Mute

Enters the muting state when all bits are set high.

* Whether to control the condition or volume control is judged by the content of bit 7.

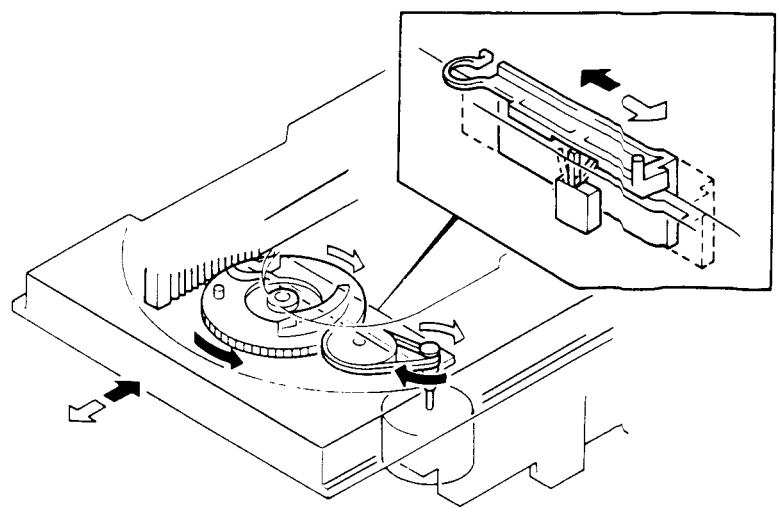
MECHANISM DESCRIPTION



1. OPEN/CLOSE Function

By the rotation of the loading motor, Gear is rotate and the tray starts OPEN/CLOSE operation.
The OPEN/CLOSE operation stops when the slide gear travels or open /close switch comes ON.

➡ OPEN
⇨ CLOSE

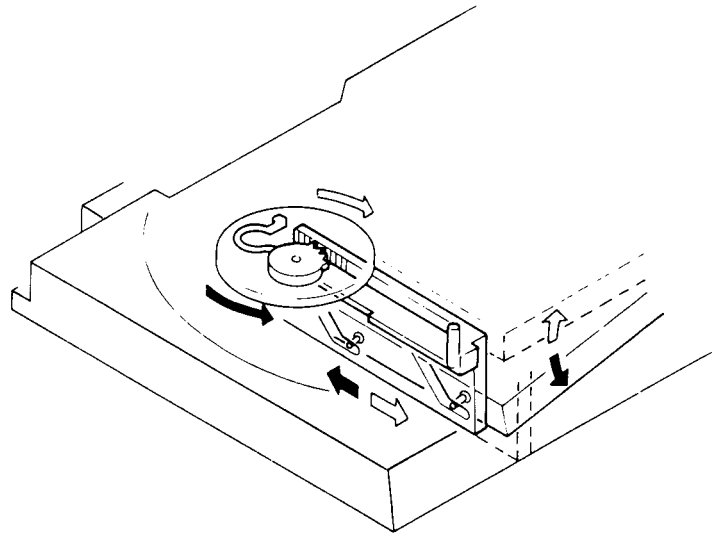


MECHANISM DESCRIPTION

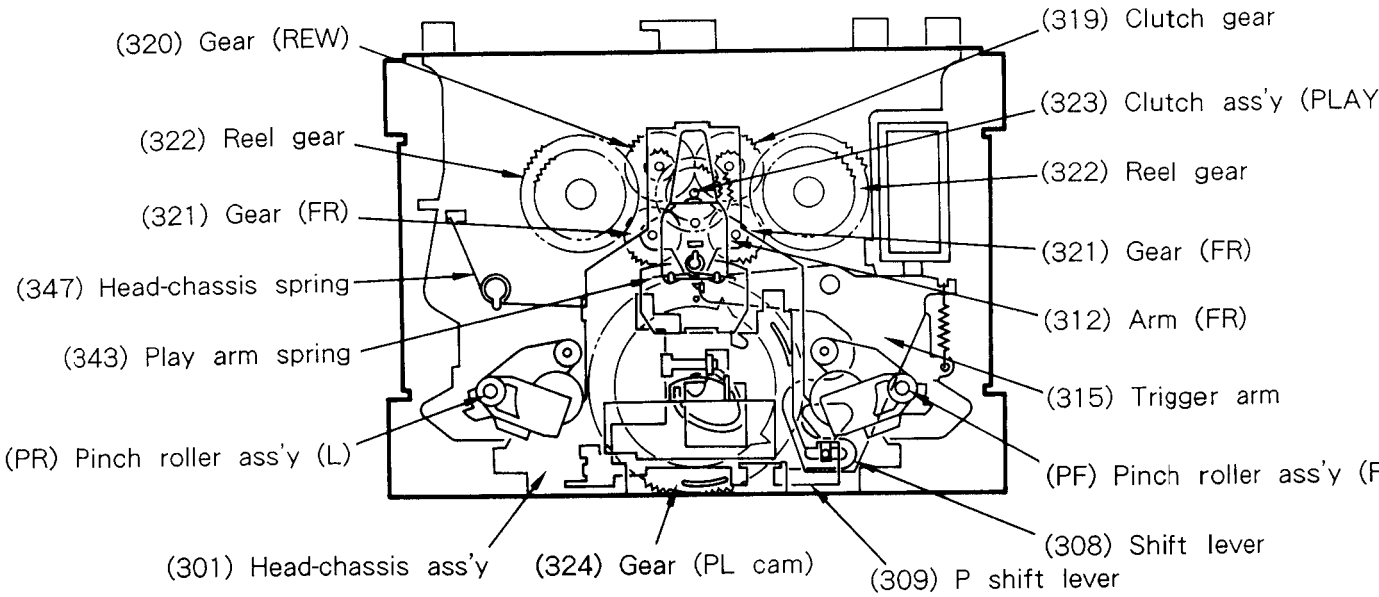
2. Pickup Chassis Traveling

Accompanied with the OPEN/CLOSE operation, the slider-gear moves by rotation of gear.

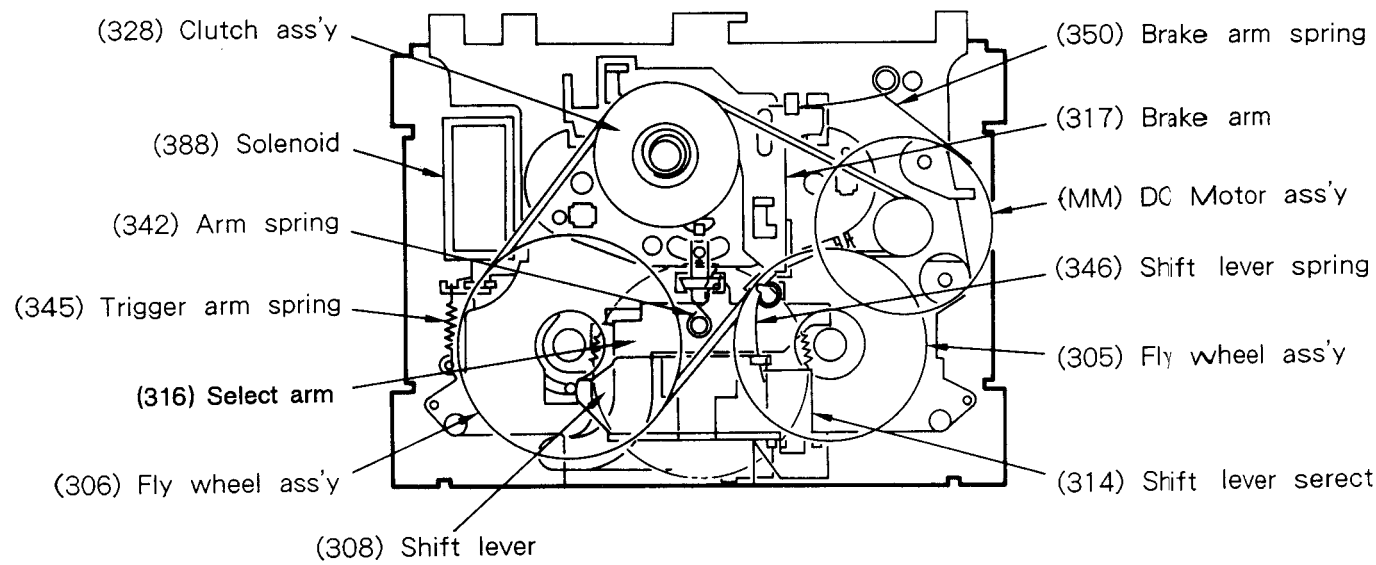
➡ OPEN
⇨ CLOSE



MECHANISM DESCRIPTION

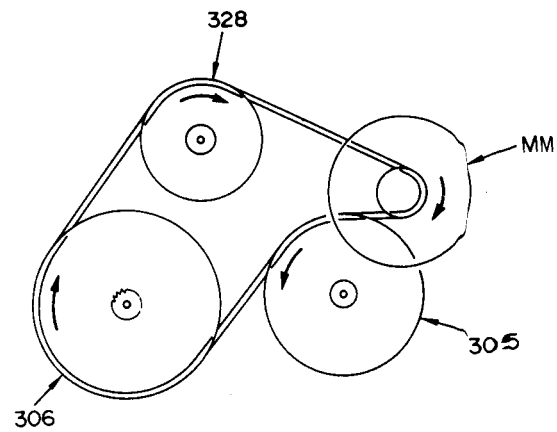


Parts Layout (Front perspective)



Parts Layout (Rear perspective)

Driving power	:	130g-cm more
Take up torque	:	35~75g-cm
FF/REW torque	:	70~160g-cm
Back tension torque	:	1.5~6g-cm



Transmission of Rotation

MECHANISM DESCRIPTION

STOP → FWD PLAY / REC (The head is in the forward – transport position when the drive stops.)

1 Press the key.The CPM starts running.

2 After about 300 ms, the solenoid is energized for 150 ms, and the boss(A) of the trigger arm (315) disengages from the stop lever (B) of the play cam gear (314).
Fig. 1

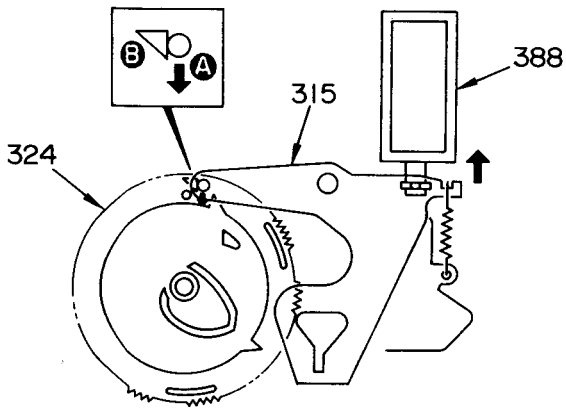


Fig. 1

3 The head chassis assembly (301) is pushed down by the spring (347), so the cam gear (324) rotates slightly, the FW (R) gear engages with the cam gear, and the gears start rotating.
Fig. 2

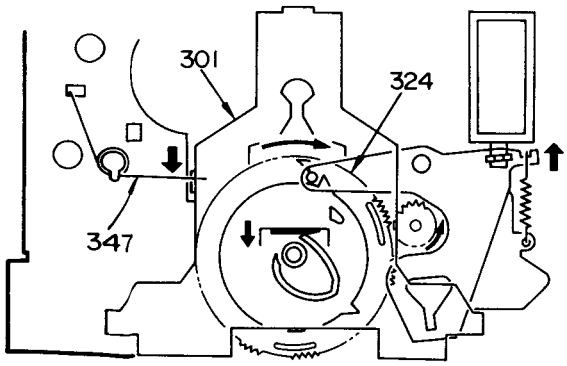


Fig. 2

4 Since the entrance of the inner track of the cam gear (324) passes when the solenoid is energized for 150 ms, the boss (A) of the shift lever selector (314) moves along the outer track, and the P shift lever (309) remains stationary.
Fig. 3

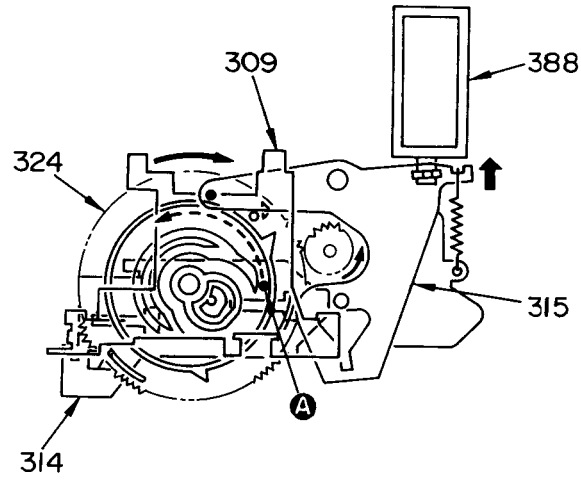


Fig. 3

5 The shift lever is lifted by the cam of the play cam gear, and the head chassis assembly is raised.
Fig. 4

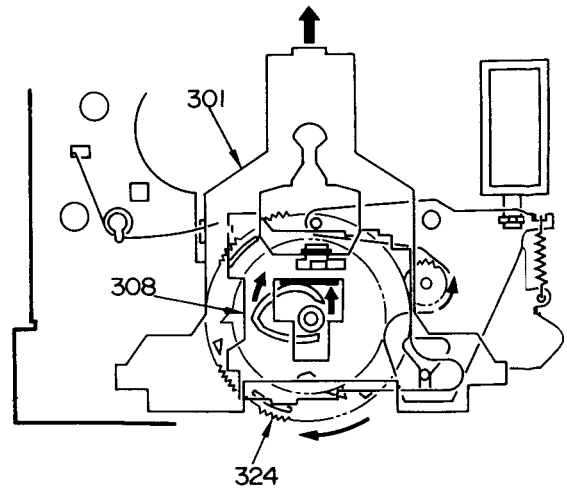


Fig. 4

MECHANISM DESCRIPTION

6 The play arm spring is pushed by the projection (A) of the P shift lever (309),the play arm tilts along the inner surface of the head chassis, the clutch gear (323),play clutchgear, and hub engage,and the hub starts roting.

Fig. 5

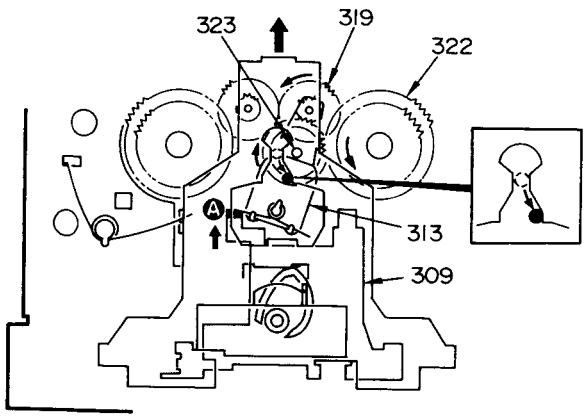


Fig. 5

7 The brake arm (317) is lifted by the bent part (A) of the shift lever (308) to release the brake from the hub.

Fig. 6

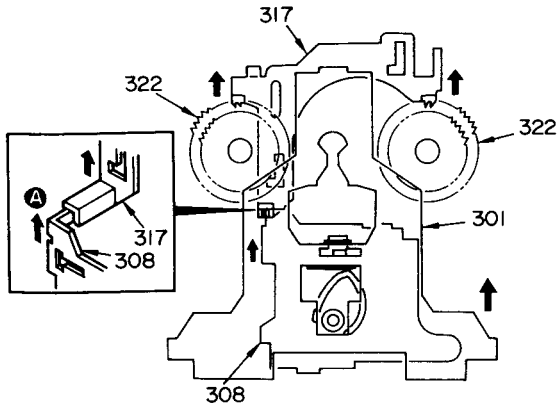


Fig. 6

8 The forward – transport pinch roller (PR) is raised by the bent part (A) of the P shift lever (309), and the pinch roller contacts the capstan.

Fig. 7

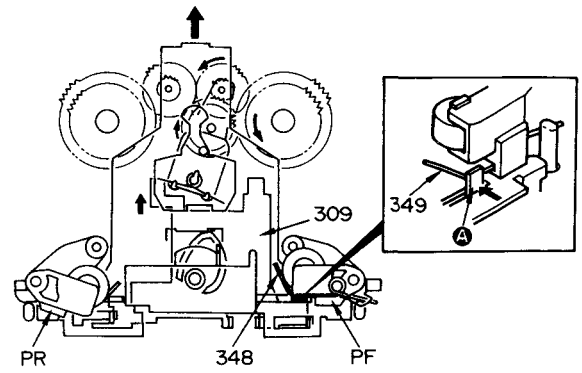


Fig. 7

STOP → RVS PLAY / REC

1 Press the key.

2 After about 300 ms, the solenoid is energized for 50 ms, then deenergized.

3 Since the solenoid is deenergized immediately after the play cam gear starts turning, the boss (A) of the shift lever selector (314), pushed by the trigger arm boss (B), passes along the inner track of the play cam gear, so the play shift lever also moves, and the head is rotated into the reverse–transport position by the return gear.

Fig. 8

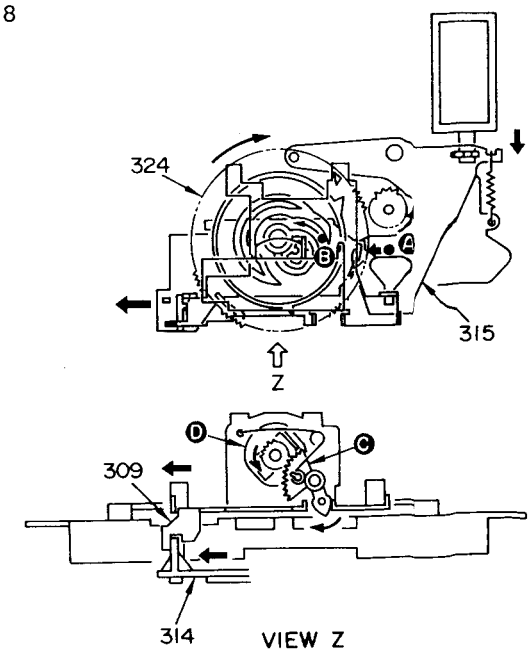


Fig. 8

MECHANISM DESCRIPTION

4 The rotating play cam gear lifts the shift lever (308), raising the head chassis assembly.

Fig. 9

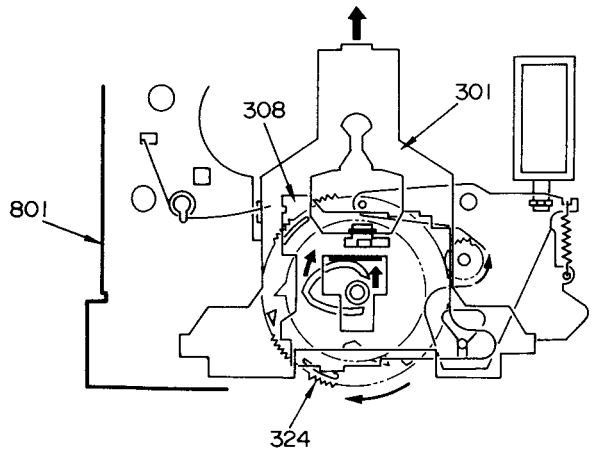


Fig. 9

5 The play arm spring pushed by the projection (A) of the P shift lever (309), the play arm tilts along the inner surface of the head chassis, the REW gear (320), play clutch gear, and hub engage, and the hub starts rotating.

Fig. 10

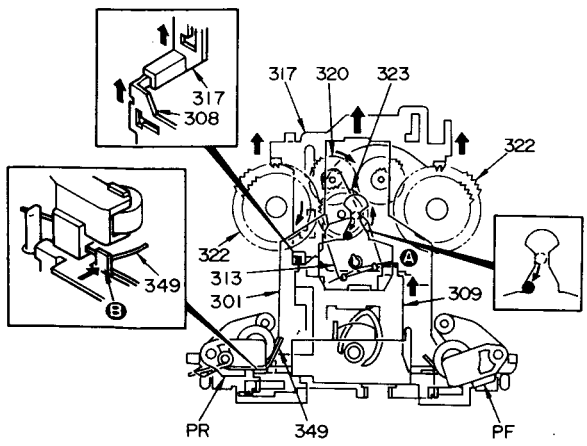


Fig. 10

6 The brake arm (317) is lifted by the shift lever to release the brake from the hub.

7 The spring of the reverse – transport pinch roller (PR) is lifted by the bent part (B) of the P shift lever (309), and the pinch roller contacts the capstan.

STOP → FF

1 Press the ▶▶ key.

2 After 300 ms, the solenoid is energized for 300 ms, the selector arm (316) is held by the concave part of the trigger arm (315), and the head chassis assembly starts rising.

Fig. 11

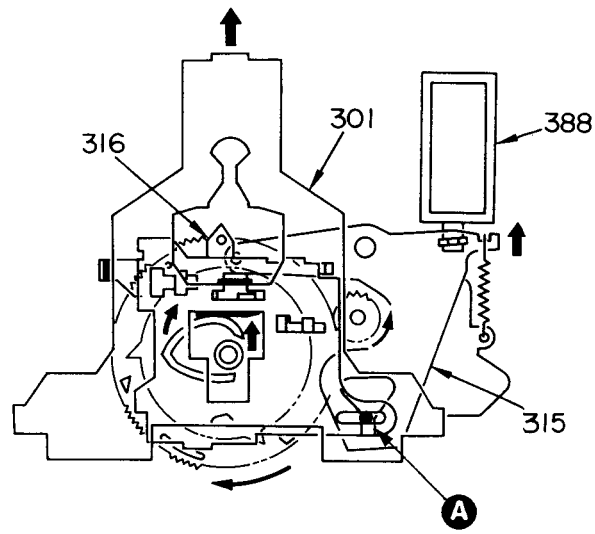


Fig. 11

3 The boss (A) of the selector arm (316) enters the holder on the mechanism base, and is lifted further.

Fig. 12

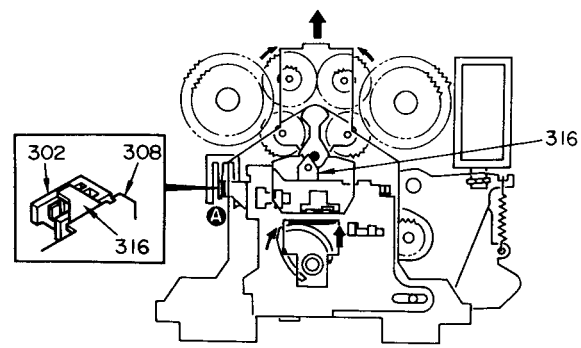


Fig. 12

MECHANISM DESCRIPTION

4 The projection of the selector arm touches the boss (A) of the FR arm (312), the selector arm rises and tilts, the FR gear (321), clutch gear, and hub gear engage, and the forward – transport take – up hub starts rotating.

Fig. 13

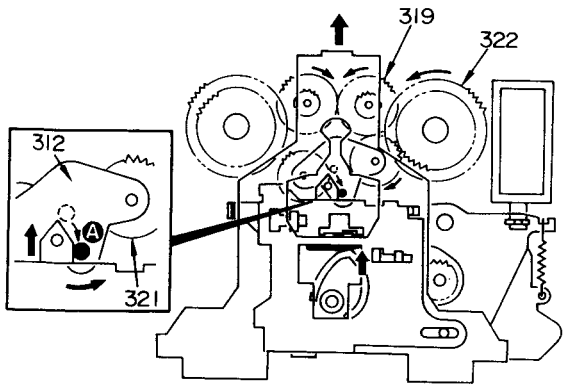


Fig. 13

5 When the shift lever is raised to its limit by the play cam gear cam, the selector arm hole and head chassis assembly boss (A) are positioned as shown in the figure below. The pinch roller does not touch the capstan, and fast – forwarding takes place.

Fig. 14

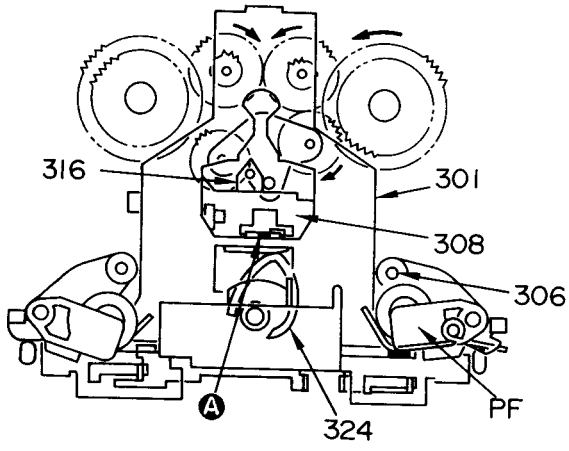


Fig. 14

STOP → RWD

1 Press the ◀◀ key.

2 After 300 ms, the solenoid is energized for 450 ms, the select arm (316) is held by the concave part of the trigger arm, and the head chassis assembly starts rising.

3 Since the selector arm is held, the projection touches the FR arm boss, the FR arm tilts, the FR gear (321), REW gear, and hub gear engage, and the RWD hub starts rotating.

Fig. 15

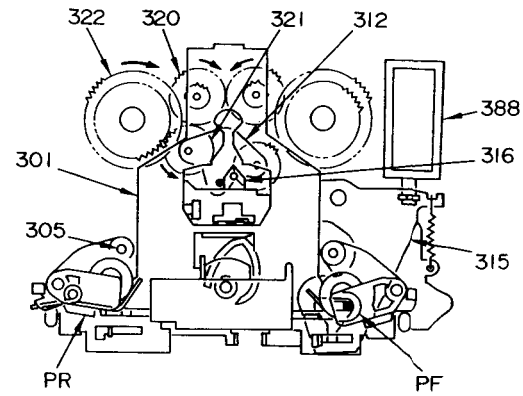


Fig. 15

4 The pinch roller does not touch the capstan, as in the fast forward operation, and rewinding takes place.

F PLAY → CUE / RWD

1 The solenoid is energized for 50 ms during forward play to stop operation.

2 The solenoid is energized for 300 ms to fast – forward (CUE).
The solenoid is energized for 50 ms to rewind (RWD).

R. PLAY → RWD

1 The solenoid is energized for 50 ms during reverse play to stop operation.

2 The solenoid is energized for 50 ms to rotate the head into the reverse – transport position.

3 The solenoid is deenergized for 100 ms, then reenergized for 150 ms to fast – forward.

RVS PLAY → CUE

1 The solenoid is energized for 50 ms during reverse play to stop operation.

2 The solenoid is energized for 50 ms to rotate the head into the reverse – transport position.

3 The solenoid is deenergized for 100 ms, then reenergizend for 300 ms to rewind.

MECHANISM DESCRIPTIO

Assembly procedure

1 Install the brake arm and its spring the clutch arm spring, and the shift lever selector , andits spring on the mechanism chassis.

Fig. 1

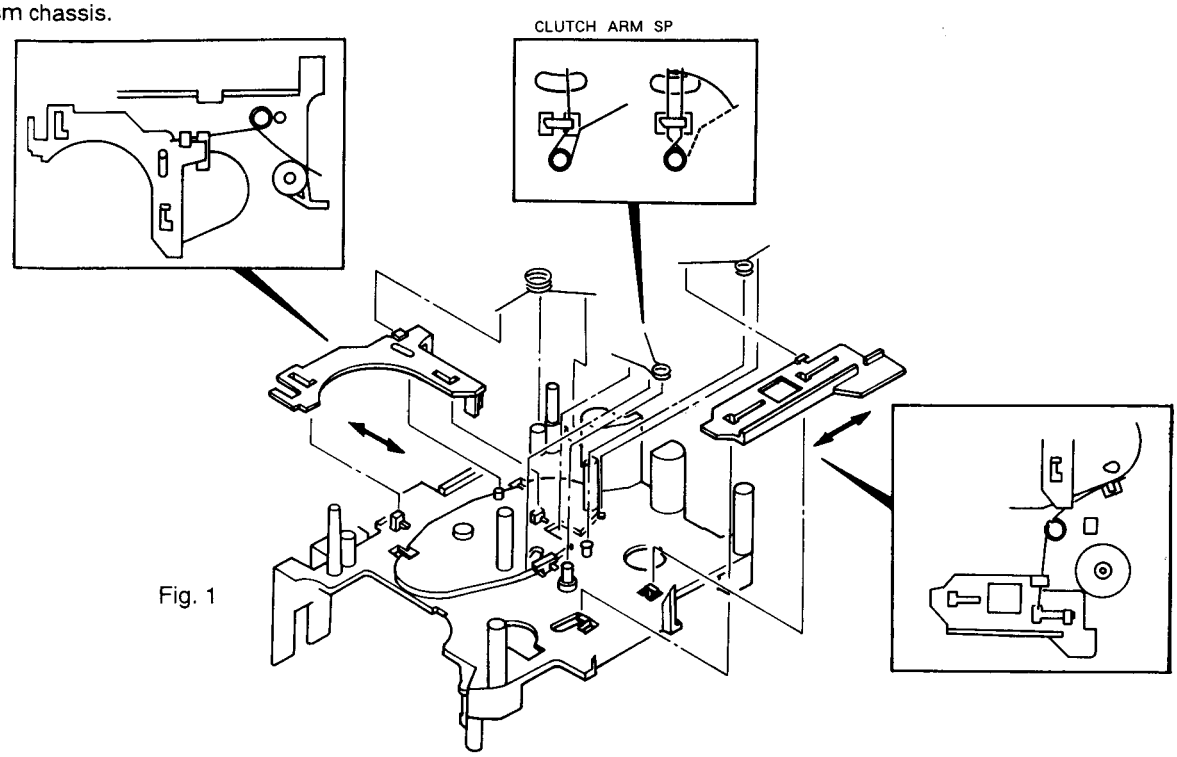
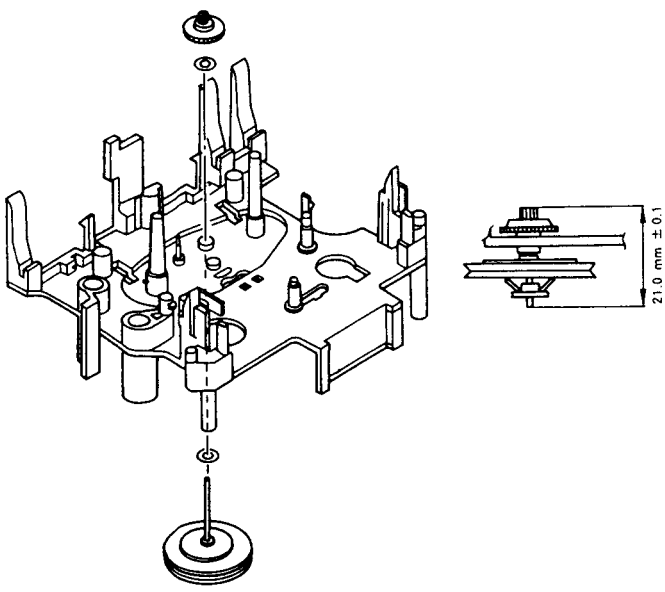


Fig. 1

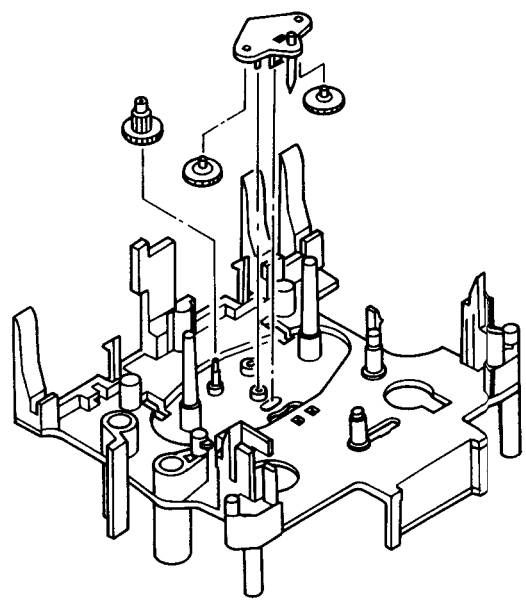
2 Install the clutch assembly on the mechanism chassis.

Fig. 2



3 Install the FR arm, FR gear, and REW gear on the mechanism chassis.

Fig. 3



MECHANISM DESCRIPTION

4 Install the hub assemblies (left and right).
Fig. 4

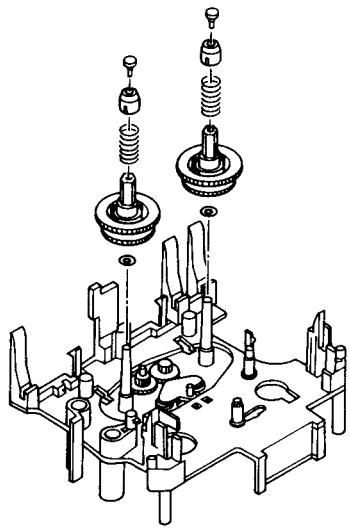


Fig. 4

5 Install the play cam gear and the trigger arm and its spring on the mechanism chassis.
Fig. 5

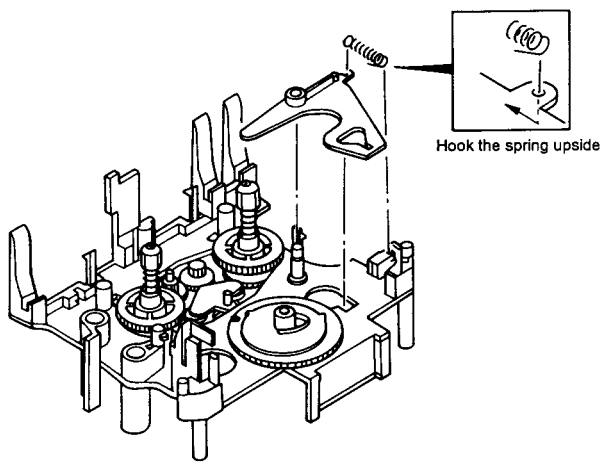


Fig. 5

6 Install the shift assembly and its sporing on the chassis.
Fig. 6

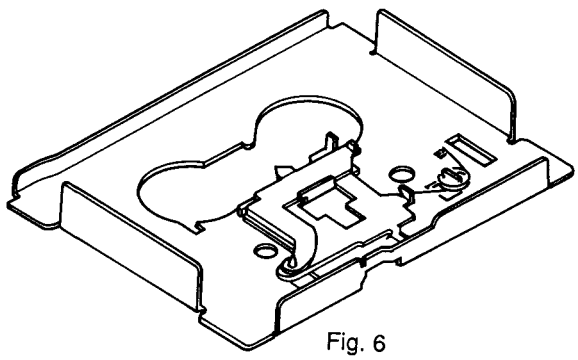


Fig. 6

7 Install the chassis on the mechanism chassis.
Fig. 7

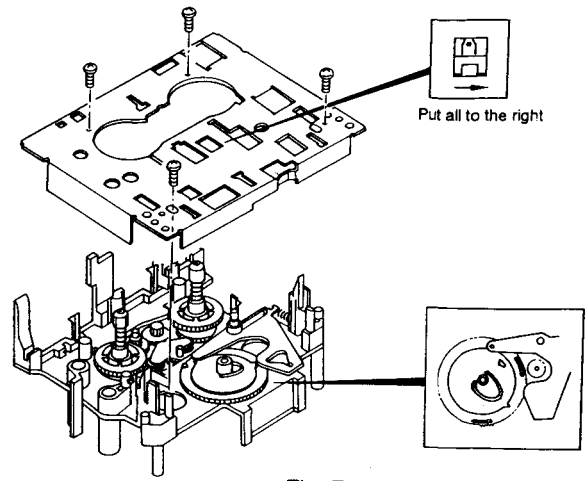


Fig. 7

8 Install the housings (left and right) on the chassis.
Fig. 8

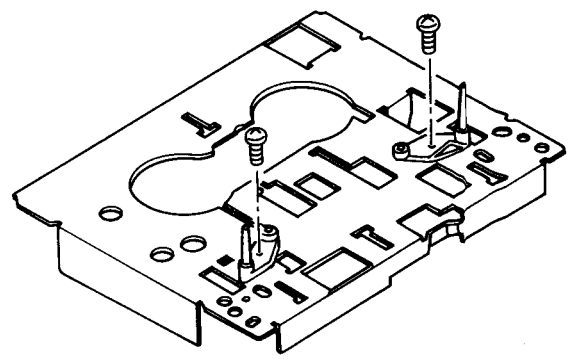


Fig. 8

9 Install the solenoid on the mechnism chassis.
Fig. 9

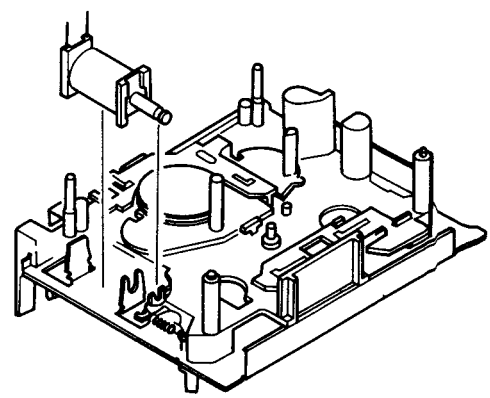


Fig. 9

10 Install the flywheels (left and right).

MECHANISM DESCRIPTION

11 Install the play arm, play clutch assembly, and the head chassis and its spring on the chassis, and install the cassette guide.

Fig. 10

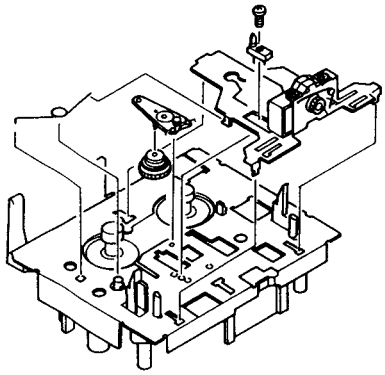


Fig. 10

12 Install the pinch rollers (left and right).

Fig. 11

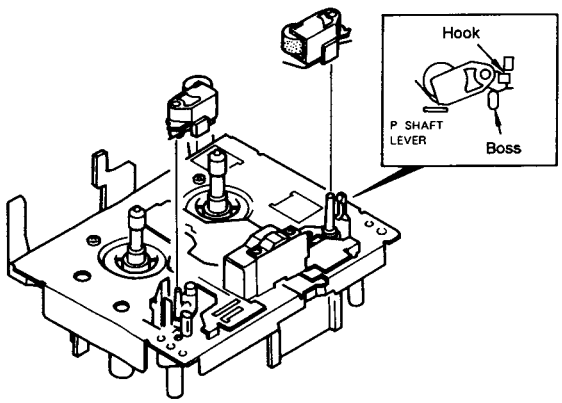


Fig. 11

13 Install the interlock and its spring.

Fig. 12

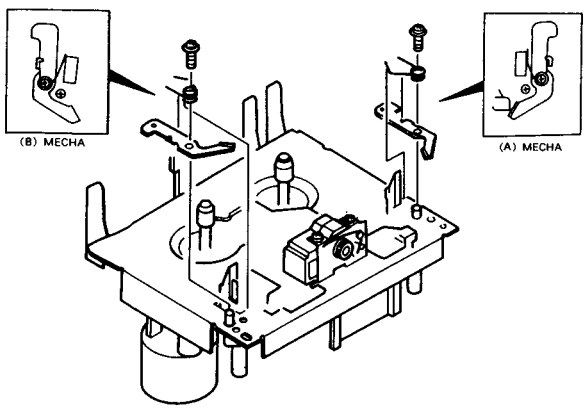


Fig. 12

14 Install the belt temporarily

Fig. 13

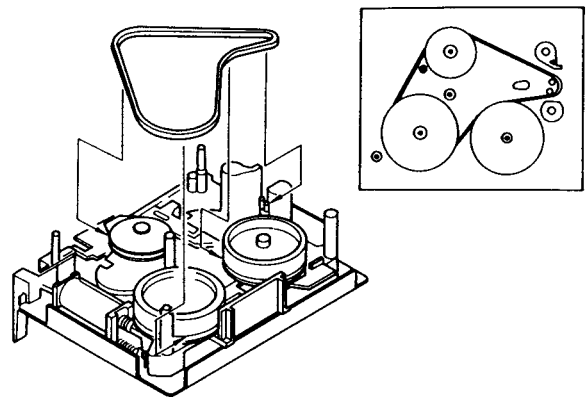


Fig. 13

15 Install the PCB.

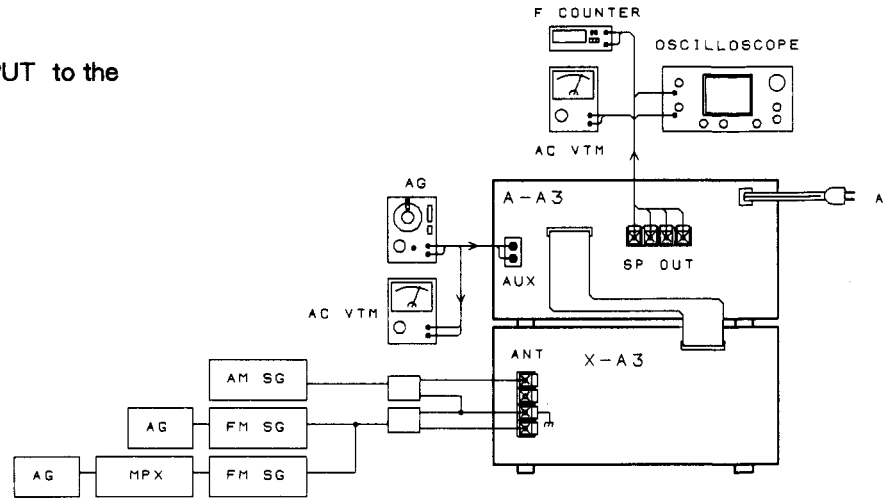
16 Install the CPM and belt.

ADJUSTMENT

Preparation for adjustment

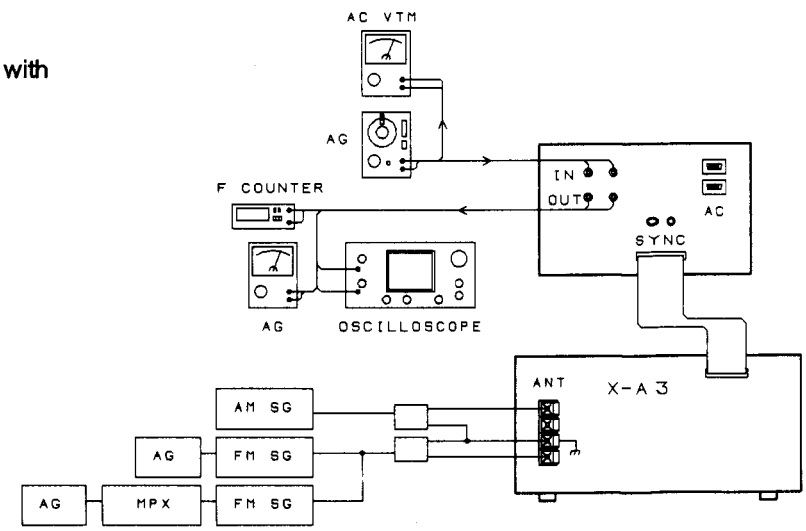
(1)When using the A-A3.

Apply the signal generator (AG) OUTPUT to the AUX INPUT of the A-A3.

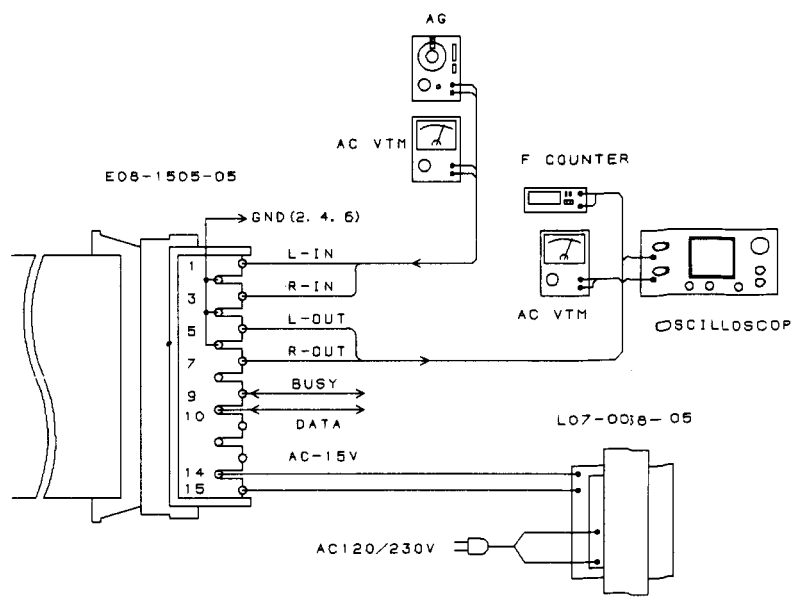


(2)When RM-90PS is used

Use the PLAY/REC socket in the same way as with the normal deck.



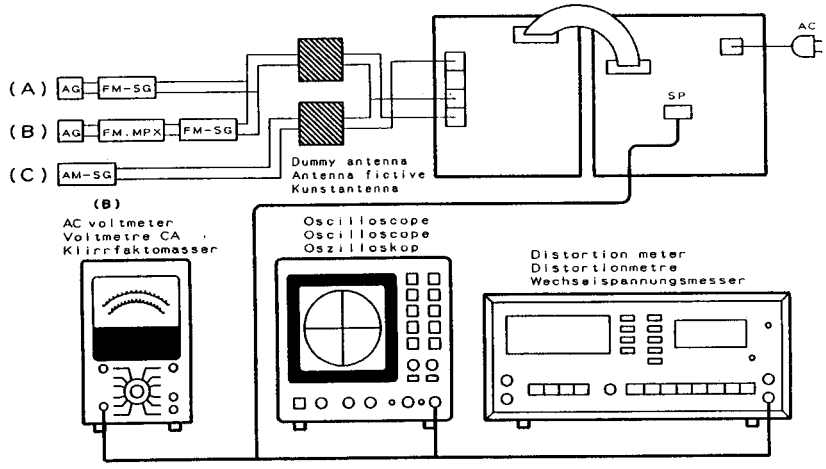
(3)Apply 15VAC and each signal with a 15-pin connector.



ADJUSTMENT

X-A3 . A3L

No	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
	FM SECTION		SELECTOR:FM				
1	DISCRIMINATOR	(A) 98.0MHz 1kHz, ± 75kHz dev (M,X type) 1kHz, ± 40kHz dev (E,T type) 60dBμ (ANT input)	Connect a DC voltmeter between TP3 and TP4. (X05-)	MONO 98.0MHz	L3	0V	(a)
2	DISTORTION (STEREO)	(C) 98.0MHz 1kHz, ± 68.25kHz dev Pilot: ± 7.5kHz dev (M,X type) 1kHz, ± 40kHz dev Pilot: ± 6kHz dev (E,T type) 60dBμ (ANT input)	(B) or P58 (1-3)	AUTO 98.0MHz	L1 IFT (W02-)	Minimum distortion	
3	SEPARATION (E,T type only)	(C) 98.0MHz 1kHz, ± 40kHz dev Pilot ± 6kHz dev Selector:L or R 60dBμ (ANT input)	(B) or P58 (1-3)	AUTO 98.0MHz	VR3 (X05-)	Minimum crosstalk	
4	TUNING LEVEL	(A) 98.0MHz 1kHz, ± 75kHz dev (M,X type) 1kHz, ± 45kHz dev (E,T type) 14dBμ (ANT input)75Ω 18dBμ (ANT input)300Ω	(B) or P58 (1-3)	AUTO or MONO 98.0MHz	VR1 (X05-)	Adjust VR1 and stop at the point where ED1(TUNED)goes on.	
	AM(MW) SECTION		SELECTOR:AM(MW)				
(1)	TUNING LEVEL	(D) 990kHz 400Hz,30% mod 26dBμ (ANT input)	(B) or P58 (1-3)	990kHz	(X05-) VR2	Adjust VR2 and stop at the point where ED1(TUNED) goes on.	



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REGLAGE

X-A3 . A3L

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DU TUNER	POINTS DE L'ALIGNE-MENT	ALIGNER POUR	FIG.
	SECTION FM			SELECTEUR:FM			
1	DISCRIMI-NATEUR	(A) 98,0MHz 1kHz, ± 75kHz dV (Type M, X) 1kHz, ± 40kHz dV (Type E, T) 60dBμ (Entrée ANT)	Connecter un voltmètre CC entre TP3 et TP4. (X05-)	MONO 98,0MHz	L3	0V	(a)
2	DISTORSION (STEREO)	(C) 98,0MHz 1kHz, ± 68,25kHz dV Pilote: ± 7,5kHz dV (Type M, X) 1kHz, ± 40kHz dV Pilote: ± 6kHz dV (Type E, T) 60dBμ (Entrée ANT)	(B) où P58 (1-3)	AUTO 98,0MHz	L1 IFT (W02-)	Distorsion minimum	
3	SEPARATION (Type E, T seulement)	(C) 98,0MHz 1kHz, ± 40kHz dV Pilote: ± 6kHz dV Sélecteur: G ou D 60dBμ (Entrée ANT)	(B) où P58 (1-3)	AUTO 98,0MHz	VR3 (X05-)	Diaphonie minimum	
4	NIVEAU D'ACCORD	(A) 98,0MHz 1kHz, ± 75kHz dV (Type M, X) 1kHz, ± 45kHz dV (Type E, T) 14dBμ (Entrée ANT)75Ω 18dBμ (Entrée ANT)300Ω	(B) où P58 (1-3)	AUTO ou MONO 98,0MHz	VR1 (X05-)	Régler VR1 et arrêter au point où ED1(ACCORDE) s'allume.	
	SECTION AM(OM)		SELECTEUR:AM(OM)				
(1)	NIVEAU D'ACCORD	(D) 990kHz 400Hz, 30% mod 26dBμ (Entrée ANT)	(B) où P58 (1-3)	990kHz	(X05-) VR2	Ajuster VR2 et arrêter au point où ED1(ACCORDE) s'allume.	

ABGLEICH

X-A3 . A3L

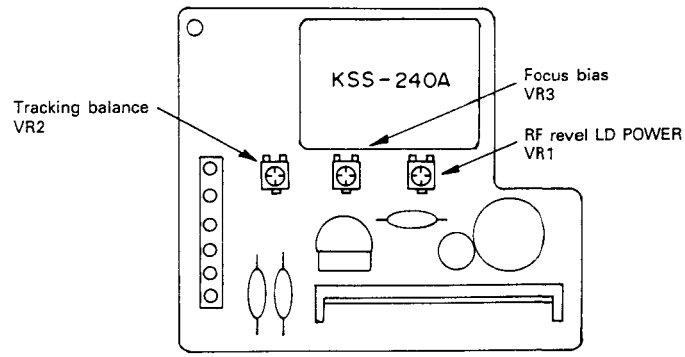
Nr.	GEGENSTAND	EINGANGSEINSTELLUNG	AUSGANGSEINSTELLUNG	TUNER-EINSTELLUNG	ABGLEICHPUNKTE	ABGLEICHEN FÜR	ABB.
	UKW-TEIL		WÄHLER:FM				
1	DEMODULATOR	(A) 98,0MHz 1kHz, ± 75kHz Abw. (M-, X-Typ) 1kHz, ± 40kHz Abw. (E-, T-Typ) 60dBμ (ANT-Eingang)	Einen Gleichspannungsmesser zwischen TP3 und TP4 schließen. (X05-)	MONO 98,0MHz	L3	0V	(a)
2	VERZERRUNG (STEREO)	(C) 98,0MHz 1kHz, ± 68,25kHz Abw. Pilot: ± 7,5kHz Abw. (M-, X-Typ) 1kHz, ± 40kHz Abw. Pilot: ± 6kHz Abw. (E-, T-Typ) 60dBμ (ANT-Eingang)	(B) oder P58 (1-3)	AUTO 98,0MHz	L1 IFT (W02-)	Minimale Verzerrungen	
3	TRENNUNG (Nur E-, T-Typ)	(C) 98,0MHz 1kHz, ± 40kHz Abw. Pilot: ± 6kHz Abw. Wähler:L oder R 60dBμ (ANT-Eingang)	(B) oder P58 (1-3)	AUTO 98,0MHz	VR3 (X05-)	Minimales Übersprechen	
4	ABSTIMMPEGEL	(A) 98,0MHz 1kHz, ± 75kHz Abw. (M-, X-Typ) 1kHz, ± 45kHz Abw. (E-, T-Typ) 14dBμ (ANT-Eingang)75Ω 18dBμ (ANT-Eingang)300Ω	(B) oder P58 (1-3)	AUTO oder MONO 98,0MHz	VR1 (X05-)	VR1 auf die Position einstellen, in der ED1(TUNED) aufleuchtet	
	AM-(MW-) TELL		WÄHLER:AM(MW)				
(1)	ABSTIMMPEGEL	(D) 990kHz 400Hz, 30% Mod 26dBμ (ANT-Eingang)	(B) oder P58 (1-3)	990kHz	(X05-) VR2	VR2 auf die Position einstellen, in der ED1(TUNED)aufleuchtet.	

UD-300

ADJUSTMENT

CAUTION

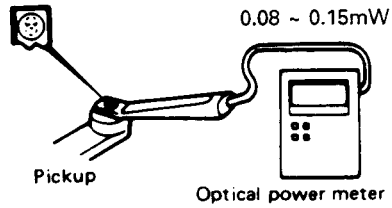
Pickup (KSS-240A) is adjustment free in repairing, please don't disassemble and adjust it.



No.	ITEM	INPUT SETTING	OUTPUT SETTING	PLAYER SETTING	ALIGNMENT POINT	ALIGN FOR	FIG.
1	LASER POWER ※	–	Apply the sensor section of the optical power meter on the pickup lens.	Short-circuit pins TEST and enter the test mode. Press the play key to check that the LD emits light. Then,confirm that the display is "05"	–	On the power from 0.08 to 0.15mW, when the diffraction grating is correctly a ligned with the RF level of 1.5Vp-p or more and the TE (servo open) level of 1.5Vp-p or more, the pickup is acceptable.	(a)
2	FOCUS GAIN	Test disc Type 4 Apply signal of 1.0kHz, 0.1Vrms to CN3 pin 2 and 3.	Connect a LPF to CN3 pin 2-3, to which connect an oscilloscope or two AC voltmeters.	Press the PLAY key. Confirm that the display is "05".	FOCUS GAIN VR2	Two VTVMs should read the same value.	(b)
3	TRACKING GAIN	Test disc Type 4 Apply signal of 1.0kHz, 0.1Vrms to CN3 pin 5 and 6.	Connect a LPF to CN3 pin 5-6, to which connect an oscilloscope or two AC voltmeters.	Press the PLAY key. Confirm that the display is "05".	TRACKING GAIN VR1	Two VTVMs should read the should value.	(b)

(NOTE) Type 4 disc : SONY YEDS-18 TEST DISC or equivalent.
LPF: around 47kohms+390pF or so.
Adjustment procedures are in TEST MODE.

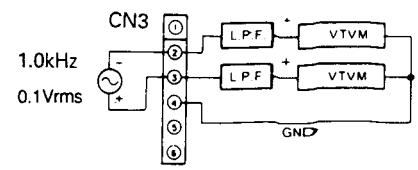
(a) Laser Power



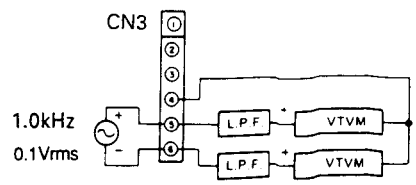
※HAVE TO TAKE AWAY THE SUB-CHASSIS( )
AND PCB( )From CD MECHA ASS'Y.

(b) Focus Gain and Tracking Gain

Focus gain :



Tracking gain :



REGLAGE

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DU LECTEUR	POINTS DE L'ALIGNEMENT	ALIGNER POUR	FIG.
1	ALIMENTATION LASER ※	—	Appliquer la section de capteur du compteur d'alimentation optique sur l'optique de lecture.	Court-circuiter les broches TEST et passer dans le mode d'essai. Appuyer sur la touche de lecture pour vérifier que le LD émet de la lumière. Ensuite,vérifier que l'affichage est "05" .	—	Sur l'alimentation de 0,08 à 0,15mV lorsque la grille de diffraction est correctement alignée avec le niveau RF de 1,5Vc-c ou plus et le niveau TE(servo ouvert) de 1,5Vc-c ou plus, la lecture est acceptable.	(a)
2	GAIN DE FOCUS	Disque d'essai Type 4 Appliquer un signal de 1,0kHz,0,1Vrms aux broches CN3 2 et 3.	Connecter un LPF aux broches CN3 2 et 3 auxquelles connecter un oscilloscope ou deux voltmètres AC.	Appuyer sur la touche de lecture. Vérifier que l'affichage est "05" .	GAIN DE FOCUS VR2	Deux VTVM doivent indiquer la même valeur.	(b)
3	GAIN D'ALIGNE-MENT	Disque d'essai Type 4 Appliquer un signal de 1,0kHz, 0,1 Vrms aux broches CN3 5 et 6.	Connecter un LPF aux broches CN3 5 et 6 auxquelles connecter un oscilloscope ou deux voltmètres AC.	Appuyer sur la touche de lecture. Vérifier que l'affichage est "05" .	GAIN D'ALIGNE-MENT VR1	Deux VTVM doivent indiquer la même valeur.	(b)

(NOTE) Disque type 4:DISQUE D'ESSAI SONY YEDS-18 ou équivalent.
LPF:environ 47 kohms+390 pF à peu près.
Les procédures de réglage se font dans le MODE D'ESSAI.

ABGLEICH

Nr.	GEGENSTAND	EINGANGSEIN-STELLUNG	AUSGANGSEIN-STELLUNG	PLAYER-EIN-STELLUNG	ABGLEICH-PUNKT	ABGLEICHEN FÜR	ABB.
1	LASER-LEISTUNG ※	—	Den Sensorabschnitt des Optikleistungsmeters am Abtaster ansetzen.	TEST-Pins Kurzschließen und auf Test-Modus schalten. Die Wiedergabetaste drücken,um sicherzustellen,daß LD Licht ausstrahlt. Dann sicherstellen,daß "05" angezeigt wird.	—	Wenn das optische Gitter richtig auf den HF-Pegel von 1,5Vss oder höher und den TE-Pegel(Servo auf) von 1,5Vss oder höher abgeglichen ist, ist der Abtaster bei einer Leistung zwischen 0,08 und 0,15 W in Ordnung.	(a)
2	FOKUSVER-STÄRKUNG	Test-Disc Typ 4 Ein Signal mit 1,0kHz, 0,1Vrms CN3-Pin 2 und 3 zuführen.	LPF an CN3-Pin 2-3 anschließen, woran ein Oszilloskop oder zwei Wechselspannungsmesser angeschlossen werden.	Die PLAY-Taste drücken. Sicherstellen, daß "05" angezeigt ist.	FOKUSVER-STÄRKUNG VR2	Zwei VTVMs sollen denselben Wert anzeigen.	(b)
3	TRACKING-VERSTÄRKUNG	Test-Disc Typ 4 Ein signal mit 1,0kHz, 0,1 Vrms CN3-Pin 5 und 6 zuführen.	LPF an CN3-Pin 5-6 anschließen, woran ein Oszilloskop oder zwei Wechselspannungsmesser angeschlossen Werden.	Die PLAY-Taste drücken. Sicherstellen,daß "05" angezeigt ist.	TRACKING-VERSTÄRKUNG VR1	Zwei VTVMs sollen den Sollwert anzeigen.	(b)

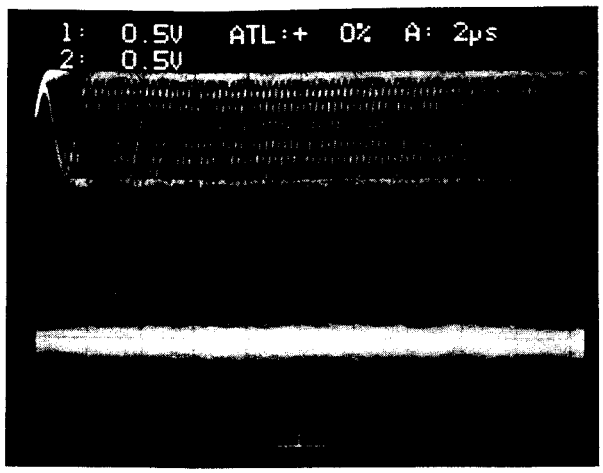
(HINWEIS)

Disc Typ 4:SONY YEDS-18-TEST-DISC oder gleichwertige.

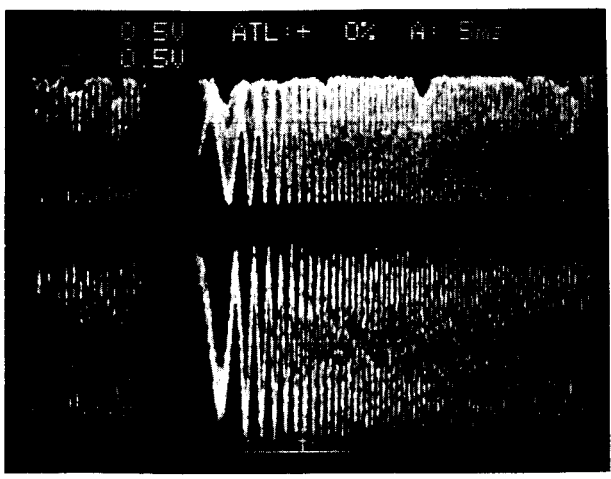
LPF:ca, 47Kohm+390 pF.

Einstellungen erfolgen im TEST-MODUS.

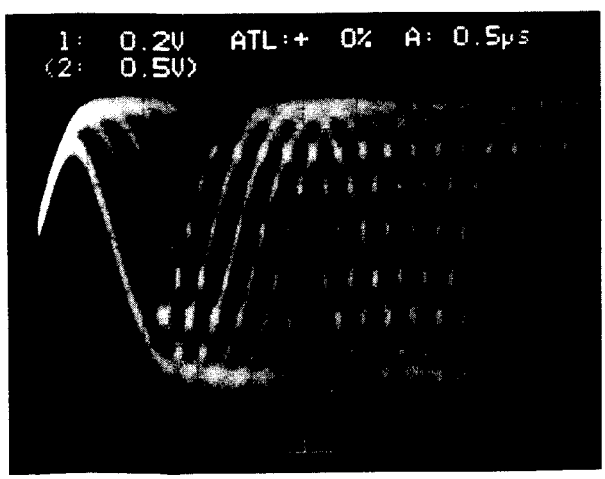
ADJUSTMENT



- RF signal and E.Spot signal in test mode (PLAY).
- If the diffraction grating has been adjusted properly, the influence of triggering is observed on the E.Spot waveform of approx. 16µs after RF signal, in the form of a projection.



- RF signal and T.Error signal, in test mode (Focusing ON). (Disc type 4)



- RF signal in test mode (PLAY).

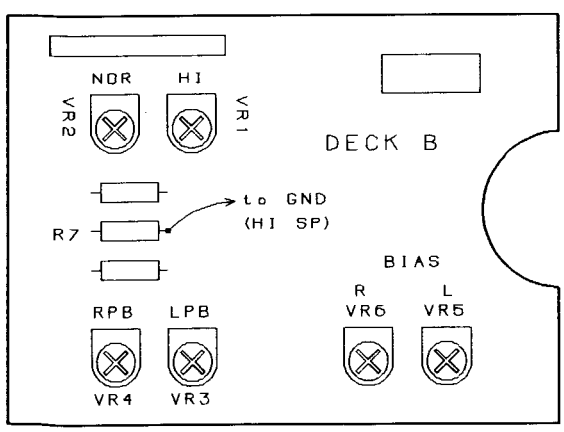
UD-300

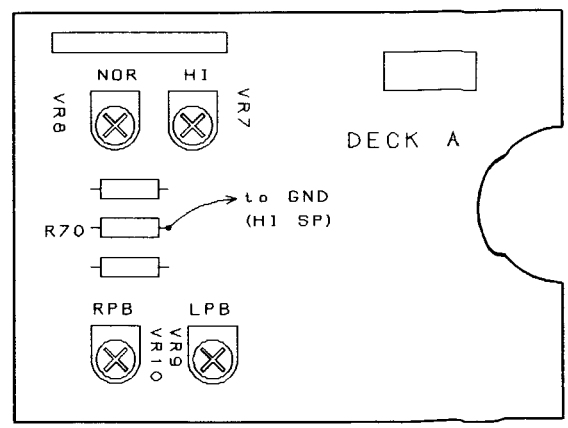
ADJUSTMENT

CSSSETTE DECK

NO.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	CASSETTE TAPE DECK SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
CASSETTE DECK SECTION		TAPE:NORMAL,	DOLBY:OFF,	INPUT:LINE,OR AUX			
1	REC/PLAY HEAD						
[1]	DEMAGNETIZATION	—	—	POWER:OFF	REC/PLAY head	Demagnetize the REC/PLAY head with a head demagnetizer.	
[2]	CLEANING	—	—	PLAY	REC/PLAY head erase head, capstan, pinch roller.	Clean the REC/PLAY head erase head,capstan and pinch roller using a cotton swab slightly damped with alchol.	
[3]	AZIMUTH	SCC1727 MTT-114, TCC-153 10kHz, -10dB	P58 (1~3)	PLAY	Azimuth adjustment screw	Maximum output.	
‖	PC board adjustment(X28-2450)						
〈1〉	TAPE SPEED (HI SPEED)	SCC1727 MTT-111, TCC-110 3kHz -4dB	P58 (1~3)	Connect R70 and GND (DECK A) or R7 and GND (DECK B) PLAY	DECK A : VR 7 DECK B : VR 1	Adjust the tape speed so that a 3kHz signal is produced at the center of the tape.	
〈2〉	TAPE SPEED (NORMAL)	SCC1727 MTT-111, TCC-110 3kHz -4dB	P58 (1~3)	Disconnect. PLAY.	DECK A : VR8 DECK B : VR2	Adjust the tape speed so that a 3kHz signal is produced at the center of the tape.	
〈3〉	PLAYBACK ** LEVEL	MTT-256U TCC-160 315Hz (0dB)	P58 (1~3)	PLAY	A VR9 (L) VR10 (R)	Output level : -5.0dBm	
		MTT-256 SCC1727 315Hz (-4dB)			B VR3 (L) VR4 (R)	Output level : -9.0dBm	
〈4〉	BIAS CURRENT **	(A) 1kHz,-28dBm 10kHz,-28dBm (-28dBm=30mV)	P58 (1~3)	Adjust AG output so that the SPEAKER output becomes -28dBm at 1kHz, then record and reproduce signal of 1kHz and 10kHz in alternation.	VR 5 (L) VR 6 (R)	Record 1kHz and 10kHz in alternation and adjust the variable resistors which control the bias current so that the same playback level is obtained.	

** Set VOLUME knob to the condition NB:MIN. GE EFFECT:OFF, AUX input:200mV, speaker output 200mV/8 Ω .





REGLAGE

MAGNETOPHONE A CASSETTE

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DU MAGNETOPHONE A CASSETTE	POINTS DE L'ALIGNE-MENT	ALIGNER POUR	FIG.
SECTION MAGNETOPHONE A CASSETTE BANDE:NORMAL DOLBY:OFF INPUT:LINE OU AUX							
1.TETE D'ENREGISTREMENT/LECTURE							
[1]	DEMAGNETISATION	—	—	ALIMENTATION COUPEE	Tête d'enre-gistrement/ lecture	Démagnetiser la tête d'enre-gistrement/lecture avec l'effaceur de tête.	
[2]	NETTOYAGE	—	—	PLAY	Tête d'enre-gistrement/ lecture, tête d'effacement, cabestan, galet presseur	Nettoyer la tête d'enregistre-ment/lecture, la tête d'effacement, la cabestan et le galet presseur avec un coton-tige légèrement trempé de l'alcool.	
[3]	AZIMUT	SCC1727 MTT-114, TCC-153 10kHz, -10dB	P58 (1~3)	PLAY	Vis d'ajustement de l'azimut	Puissance maximum	
II Ajustement de la plaquette de circuits imprimés(X28-2450)							
⟨1⟩	VITESSE DE LA BANDE (GRANDE VITESSE)	SCC1727 MTT-111, TCC-110 3kHz -4dB	P58 (1~3)	Connecter R70 et GND(PLATINE A) ou R7 et GND (PLATINE B) PLAY	PLATINE A:VR7 PLATINE B:VR1	Ajuster la vitesse de la bande pour qu'un signal de 3kHz soit produit au centre de la bande.	
⟨2⟩	VITESSE DE LA BANDE(NORMALE)	SCC1727 MTT-111, TCC-110 3kHz -4dB	P58 (1~3)	Déconnecté. PLAY.	PLATINE A:VR8 PLATINE B:VR2	Ajuster la vitesse de la bande de sorte qu'un signal de 3kHz soit produit au centre de la bande.	
⟨3⟩	NIVEAU DE LECTURE**	MTT-256U TCC-160 315Hz (0dB)	P58 (1~3)	PLAY	A VR9 (L) VR10 (R) B VR3 (L) VR4 (R)	Niveau de sortie:-5,0dBm	
		MTT-256 SCC1727 315Hz (-4dB)				Niveau de sortie:-9,0dBm	
⟨4⟩	COURANT DE POLARISATION**	(A) 1kHz,-28dBm 10kHz,-28dBm (-28dBm=30mV)	P58 (1~3)	Ajuster la sortie de AG de sorte que a sortie de HAUT-PIARLEUR deviennent -28 dBm à 1kHz, puis enregistrer et reproduire un signal de 1kHz et 10kHz alternativement.	VR 5 (L) VR 6 (R)	Enregistrer alternativement 1kHz et 10kHz et ajuster les résistances variables qui contrôlent le courant de polarisation de sorte que le même niveau de lecture soit obtenu.	

** Régler le bouton VOLUME à la condition. NB:MIN GE EFFECT:OFF, entree AUX:200mV, sortie haut-parleur 200 mV/8Ω

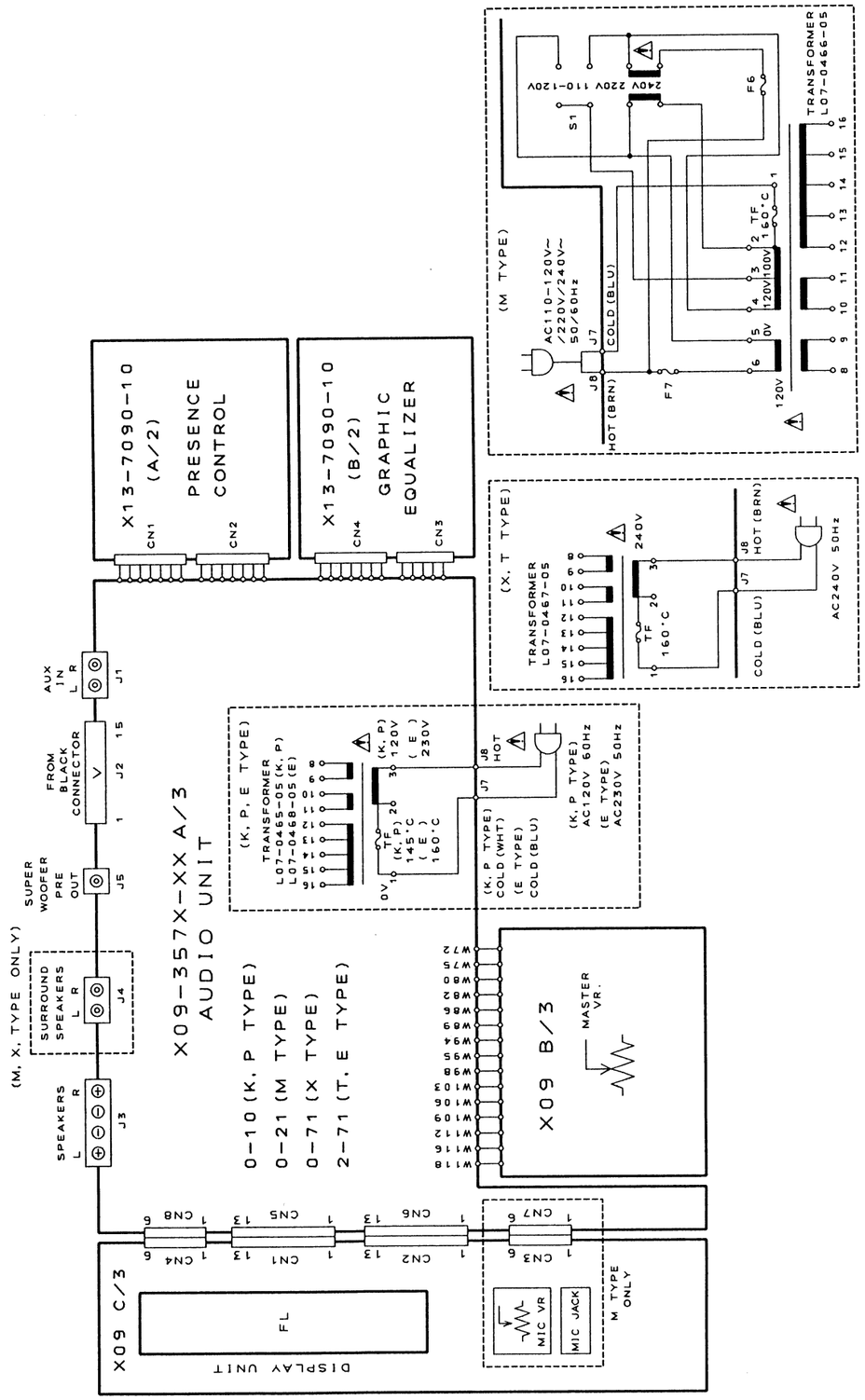
ABGLEICH

CASSETTENDECK

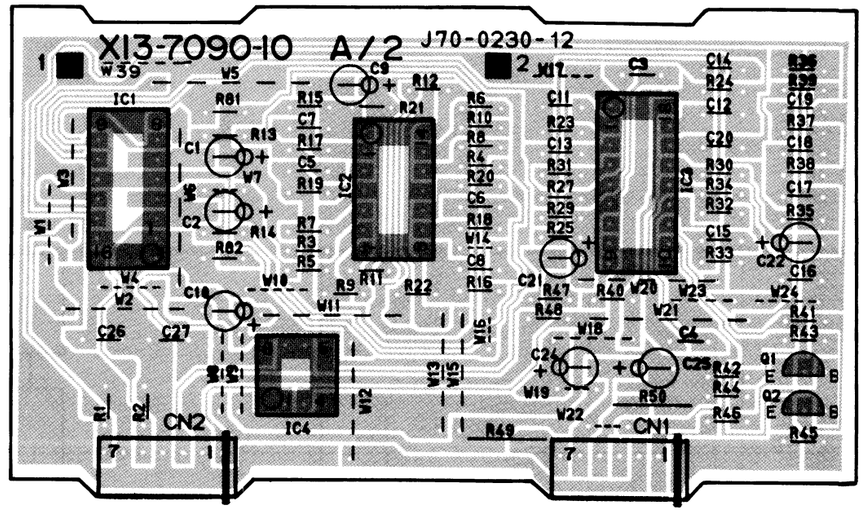
Nr.	GEGENSTAND	EINGANGSEIN-STELLUNG	AUSGANGS-EINSTEL-LUNG	CASSETTEN-DECK-EINSTEL-LUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
CASSETTENDECK-TEIL	BAND:NORMAL, DOLBY:OFF, EINGANG:LINE ODER AUX						
1.AUFNAHME/WIEDERGABEKOPF							
[1]	ENTMAGNETISI-ERUNG	—	—	POWER:OFF	Aufnahme/ Wiedergabekopf (REC/PLAY)	Den REC/PLAY-Kopf mit einem Tonkopf-Entmagnetisi-erer entmagnetisieren.	
[2]	REINIGUNG	—	—	PLAY	REC/PLAY-Kopf, Löschkopf, Tonwelle und Andruckrolle.	REC/PLAY-Kopf, Löschkopf,Tonwelle und Andruckrolle mit einem leicht mit Alkohol angefeuchteten Wattestäbchen reinigen.	
[3]	AZIMUT	SCC1727 MTT-114, TCC-153 10kHz, -10dB	P58 (1~3)	PLAY	Azimut-Ein-stellschraube	Höchstleistung.	
‖ Platinen-Einstellung(X28-2450)							
〈1〉	BANDGESCHWIN-DIGKEIT (SCHNELL)	SCC1727 MTT-111, TCC-110 3kHz -4dB	P58 (1~3)	R70 und GND (DECK A) oder R7 und GND(DECK B) verbinden PLAY	DECK A:VR7 DECK B:VR1	Die Bandgeschwindigkeit so einstellen, daß ein 3-kHz-Signal in der Mitte des Bands erzeugt wird.	
〈2〉	BANDGESCHWIN-DIGKEIT (NORMAL)	SCC1727 MTT-111, TCC-110 3kHz -4dB	P58 (1~3)	Abtrennen. PLAY.	DECK A:VR8 DECK B:VR2	Die Bandgeschwindigkeit so einstellen, daß ein 3-kHz-Signal in der Mitte des Bands erzeugt wird.	
〈3〉	WIEDERGA-BEPEGEL**	MTT-256U TCC-160 315Hz (0 dB)	P58 (1~3)	PLAY	A VR9 (L) VR10 (R) B VR3 (L) VR4 (R)	Ausgangspegel:-5,0dBm	
		MTT-256 SCC1727 315Hz (-4 dB)				Ausgangspegel:-9,0dBm	
〈4〉	VORMAGNETISI-ERUNGSSTROM**	(A) 1kHz, -28dBm 10kHz, -28dBm (-28dBm=30mV)	P58 (1~3)	Den AG-Ausgang so einstellen, daß der SPEAKER-Ausgang bei 1kHz -28 dBm wird, dann ab-wechselnd ein Signal mit 1kHz und 10kHz aufzeichnen und reproduzieren.	VR 5 (L) VR 6 (R)	Abwechselnd 1kHz und 10kHz aufzeichnen und die Vormagnetisierungsstrom-Stellwiderstände so einstellen, daß derselbe Wiederga-bepegel erhalten wird.	

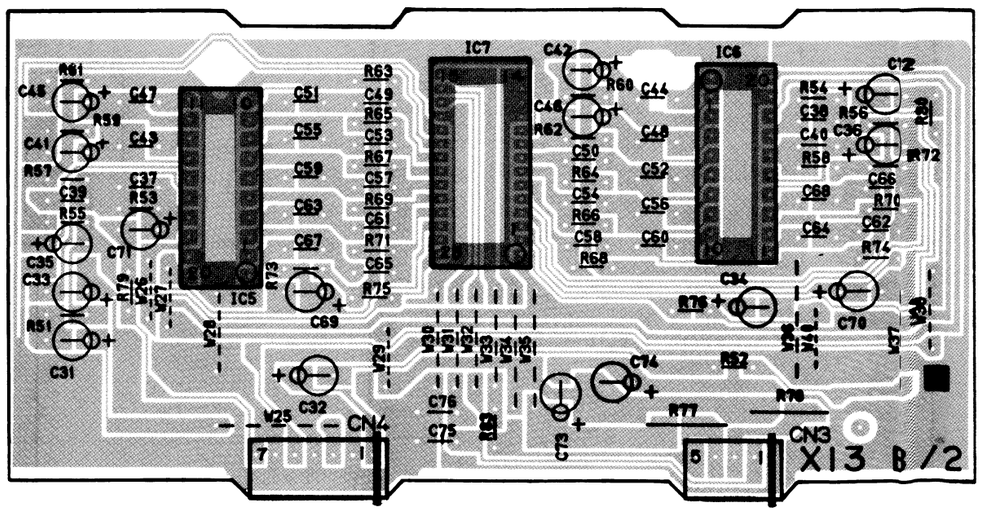
**Den VOLUME-Knopf entsprechend einstellen NB:MIN, GE EFFECT:OFF, AUX-Eingang:200mv, Lautsprecher-Ausgang 200mV/8Ω

WIRING DIAGRAM



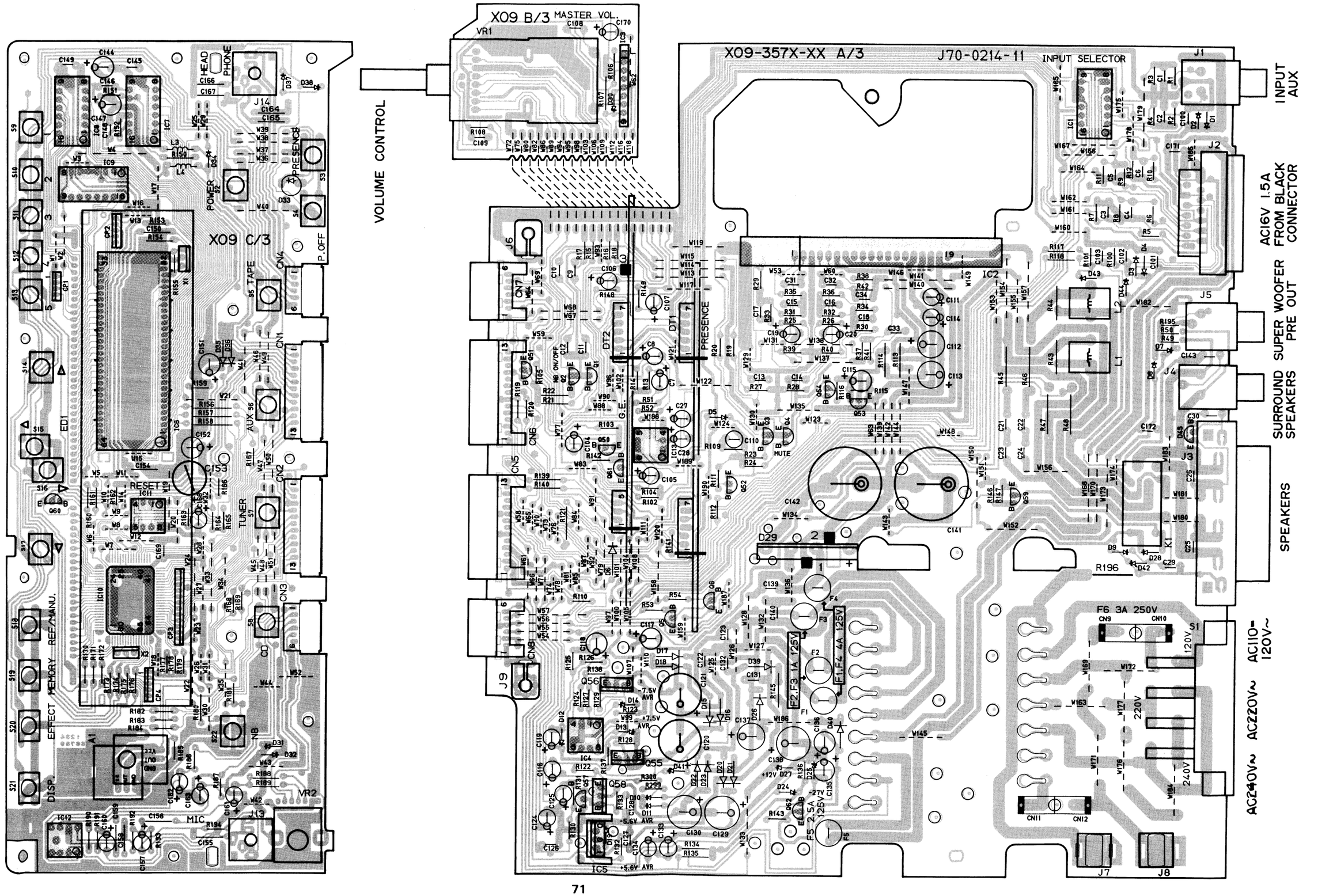
PC BOARD (Component side view)





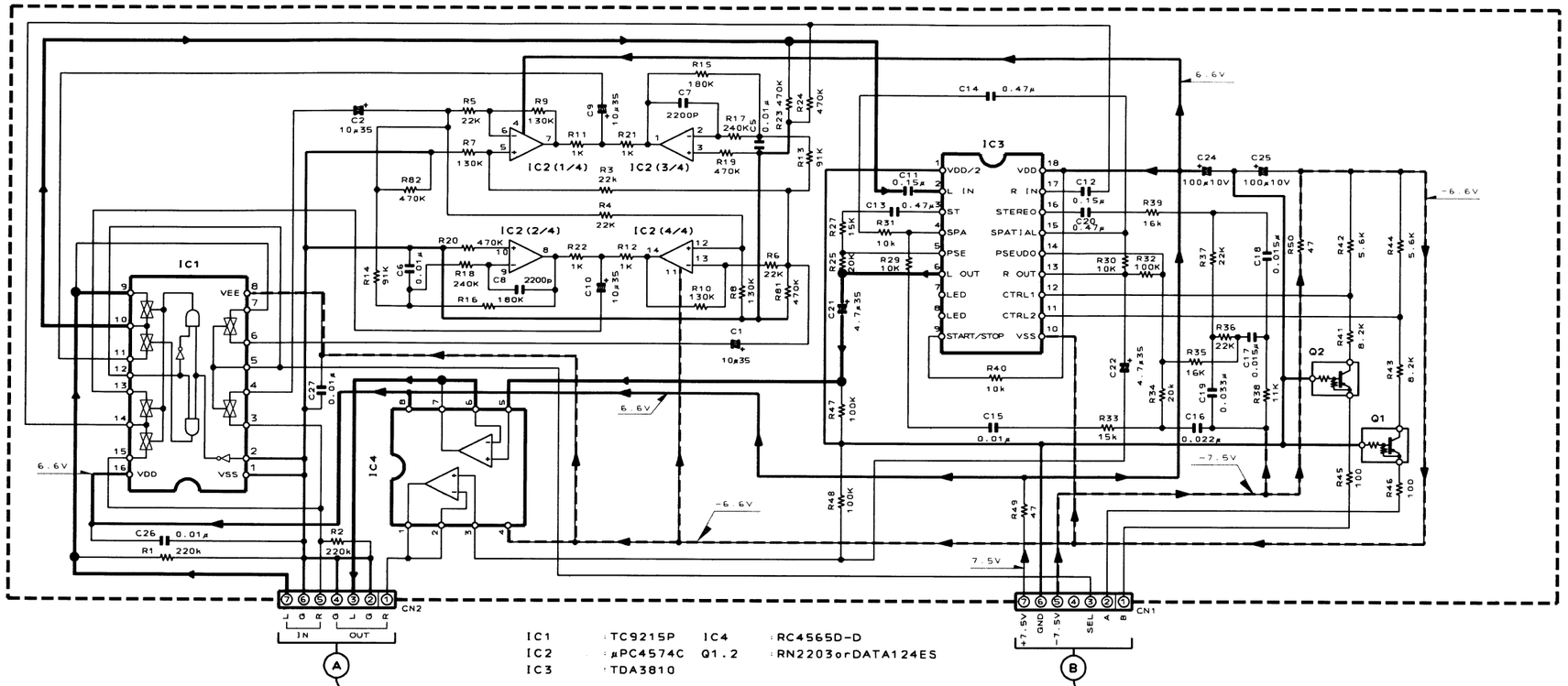
Refer to the schematic diagram for the values of resistors and capacitors.

PC BOARD (Component side view)



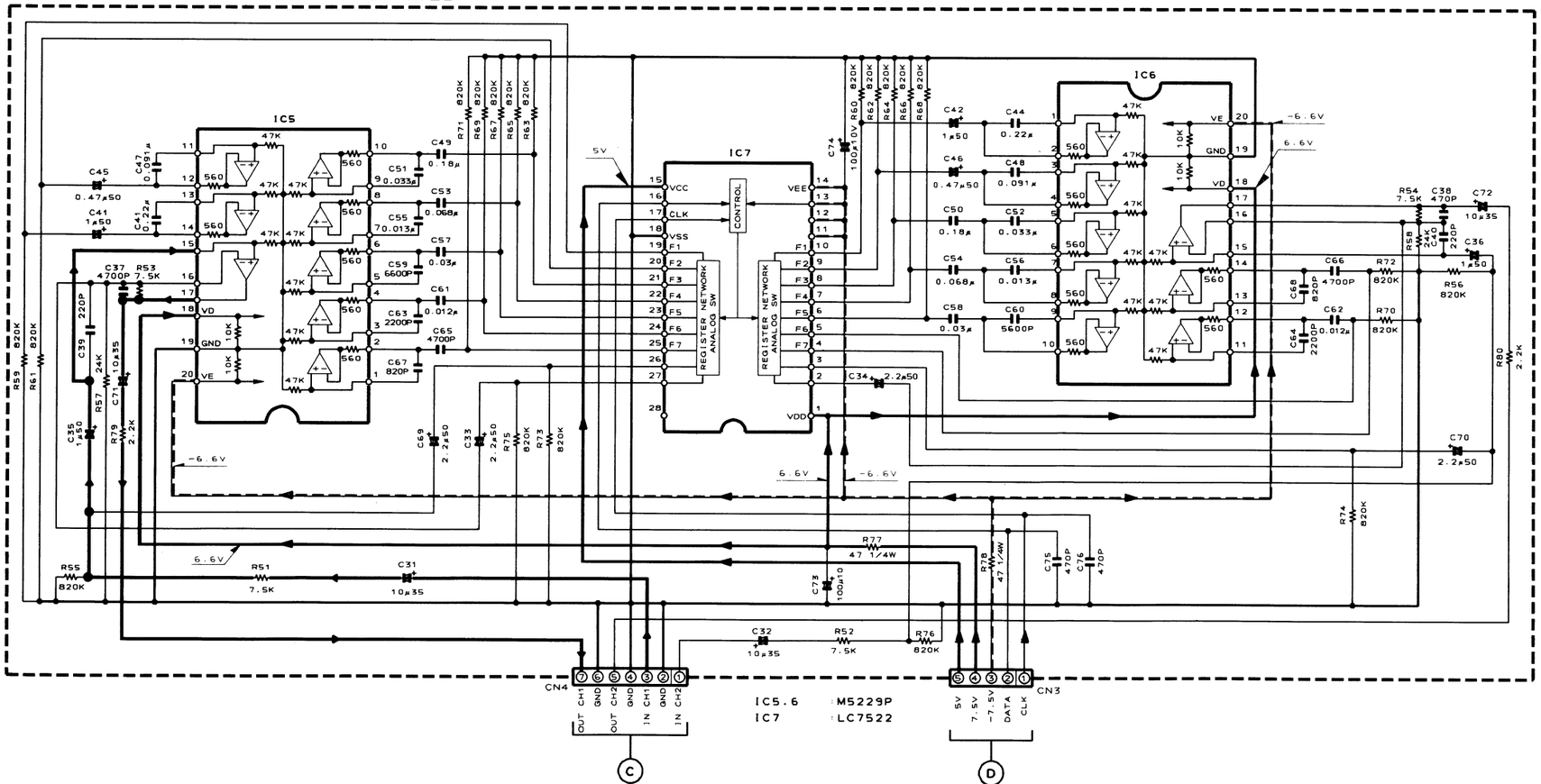
Refer to the schematic diagram for the values of resistors and capacitors.

X13-7090-10 A/2 PRESENCE CONTROL



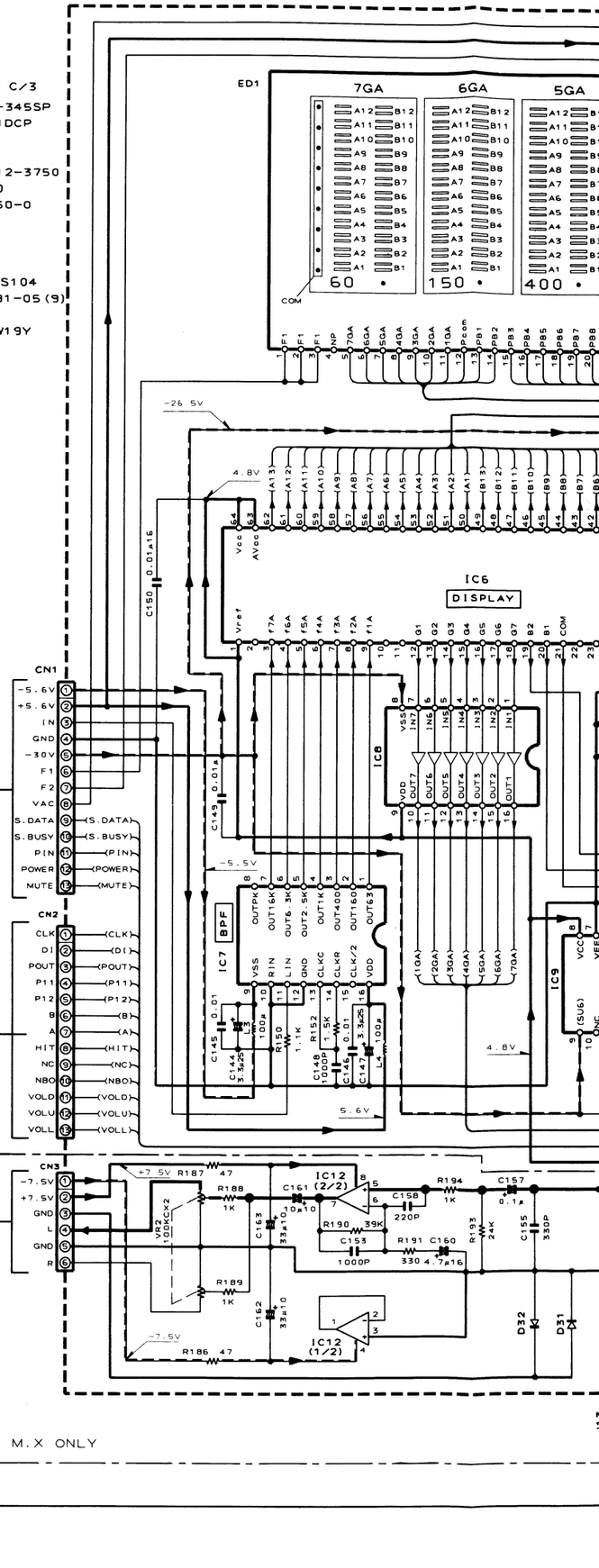
IC1	: TC9215P	IC4	: RC4565D-D
IC2	: μPC4574C	Q1.2	: RN2203orDATA124ES
IC3	: TDA3810		

X13-7090-10 B/2 GRAPHIC EQUALIZER



IC5.6	: M5229P		
IC7	: LC7522		

X09-357X-XX C/3

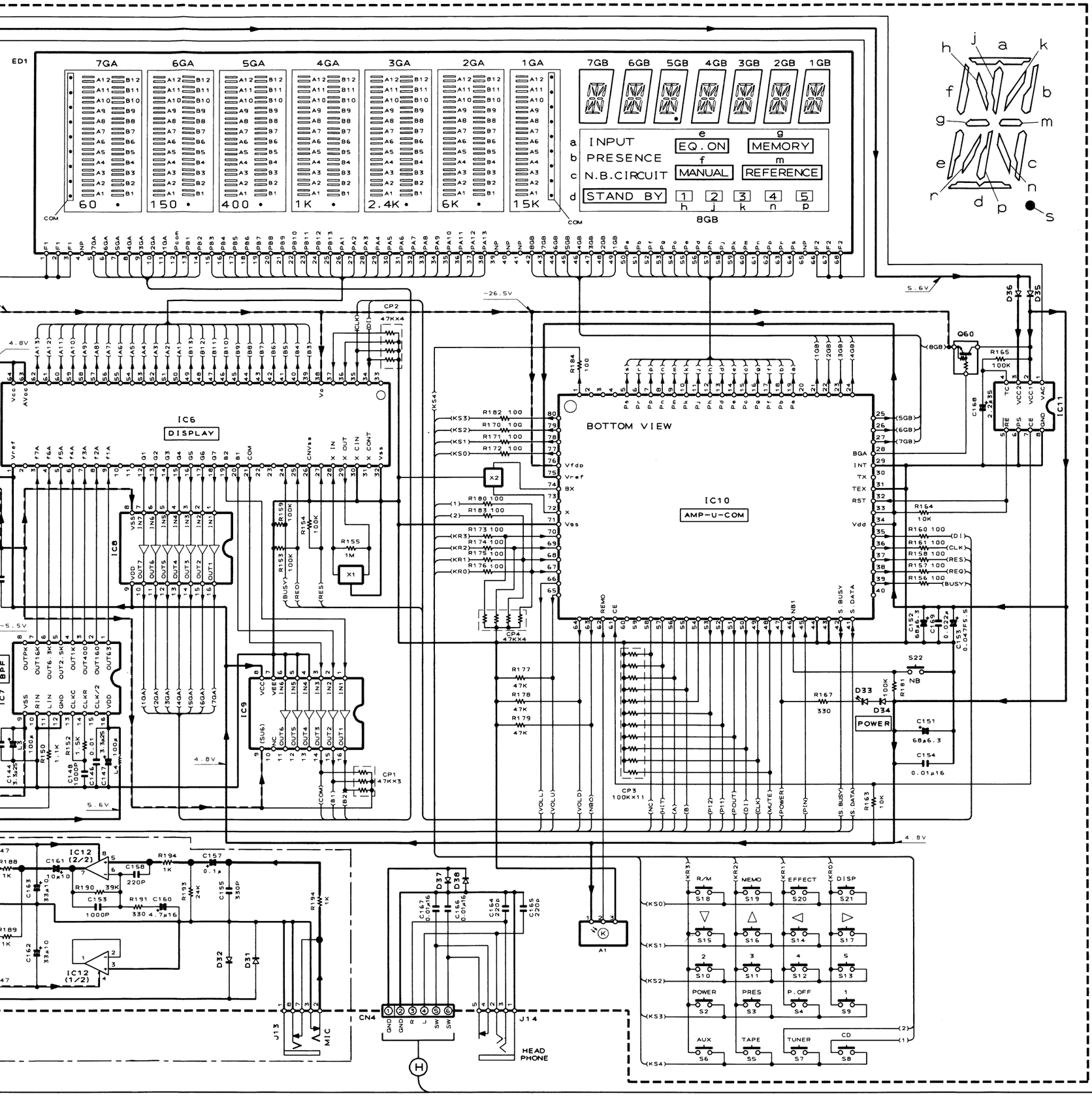


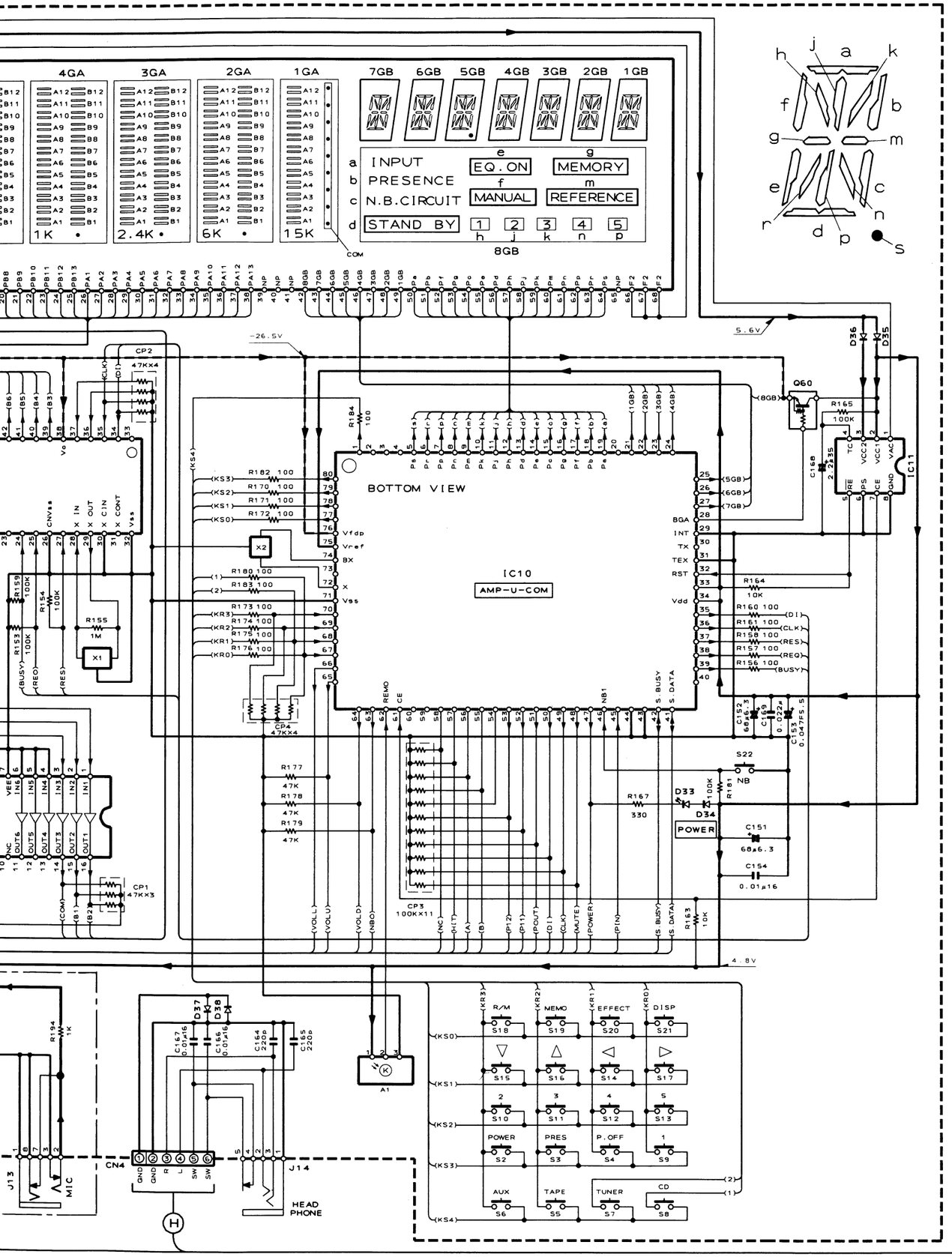
IC6	: M50940-345SP		
IC7	: XR-1091DCP		
IC8	: μPA80C		
IC9	: LB1294		
IC10	: CXP50112-3750		
IC11	: PST6200		
IC12	: NJM45650-0		
Q60			
D31, 32	: 1SS133		
34~36	or HSS104		
D33	: B30-1291-05(9)		
ED1	: FIP13CW19Y		

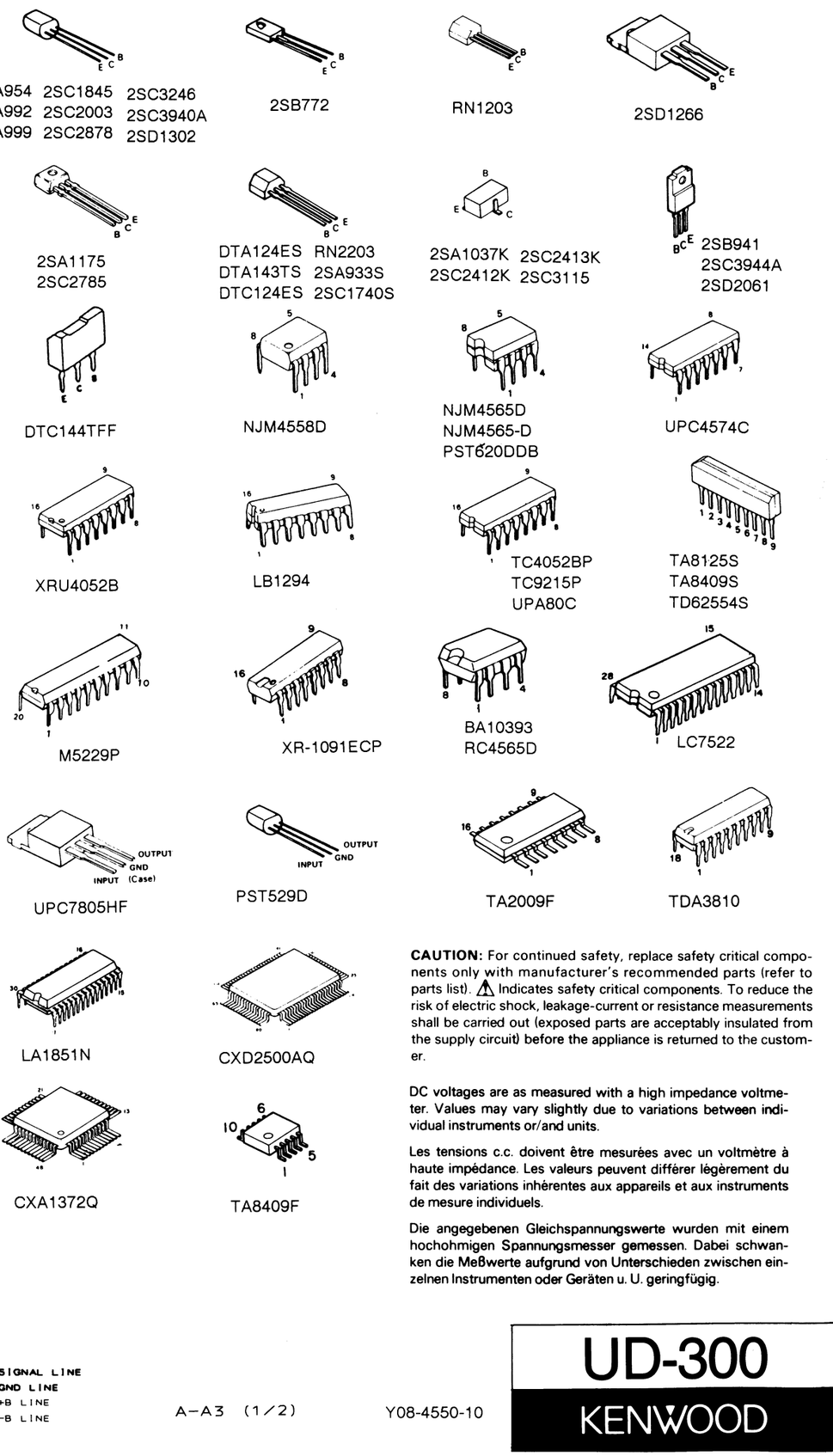
M.X ONLY

X09-357X-XX C/3

IC6	: M50940-345SP
IC7	: XR-1091DCP
IC8	: μPA80C
IC9	: LB1294
IC10	: CXP50112-3750
IC11	: PST6200
IC12	: NJM45650-0
Q60	
D31, 32	: 1SS133
34~36	or HSS104
D33	: B30-1291-05 (9)
ED1	: FIP13CW19Y







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Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.

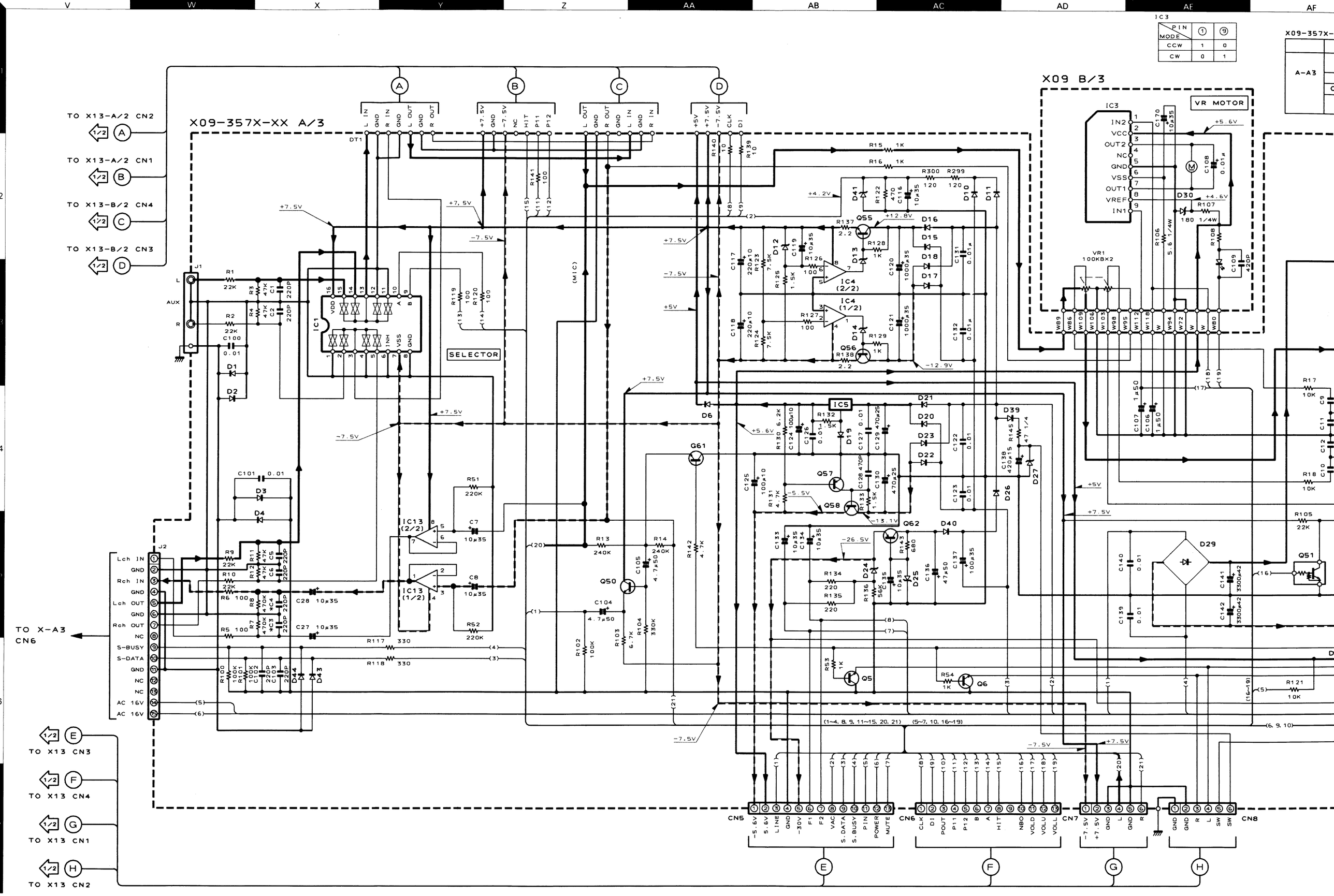
SIGNAL LINE
GND LINE
+B LINE
-B LINE

A-A3 (1/2)

Y08-4550-10

UD-300

KENWOOD


X09-357X-XX A/3
X09 B/3
TO X13-A/2 CN2
TO X13-A/2 CN1
TO X13-B/2 CN4
TO X13-B/2 CN3
TO X-A3 CN6
TO X13 CN3
TO X13 CN4
TO X13 CN1
TO X13 CN2
DT1
J1
J2
IC1
IC3
IC4 (2/2)
IC4 (1/2)
IC5
IC13 (2/2)
IC13 (1/2)
SELECTOR
VR MOTOR
VR1 100KBX2
Q50
Q51
Q55
Q56
Q57
Q58
Q62
Q5
Q6
G61
D1
D2
D3
D4
D6
D10
D11
D12
D13
D14
D15
D16
D17
D18
D19
D20
D21
D22
D23
D24
D25
D26
D27
D29
D30
D39
D40
D41
D43
D44
CN5
CN6
CN7
CN8
IC3
PIN
MODE
CCW
CW
A-A3
X09-357X-

AA | AB | AC | AD | AE | AF | AG | AH | AI | AJ

IC3

PIN / MODE	①	⑨
CCW	1	0
CW	0	1

X09-357X-XX

	COUNTRY	ABB.	UNIT NAME / AREF.NO	*C3, 4
A-A3	USA	K	X09-3570-10	NO
	CANADA	P		
	AUSTRALIA	X	X09-3570-71	
	OTHER AREAS	M	X09-3370-21	
	ENGLAMD EUROPE	T E	X09-3572-71	YES

X09 B/3

VR MOTOR

IC3 IN2 VCC OUT2 NC GND VSS OUT1 VREF IN1

VR1 100KBX2

IC4 (2/2) IC4 (1/2) IC5 IC2 (1/2) IC2 (2/2)

POWER AMP

Q1 Q2 Q3 Q4 Q5 Q6 Q50 Q51 Q52 Q53 Q54 Q55 Q56 Q57 Q58 Q59 Q61 Q62

D1 D2 D3 D4 D5 D6 D9 D10 D11 D12 D13 D14 D15 D16 D17 D18 D19 D20 D21 D22 D23 D24 D25 D26 D27 D28 D29 D30 D39 D40 D41 D42 D45

K1 S1 F1 F2 F3 F4 F5 F6 F7

TF 160C

CN5 CN6 CN7 CN8

CN5: -5.6V, 5.6V, LINE, GND, -30V, F1, F2, VAC, S.DATA, S.BUSY, PIN, POWER, MUTE

CN6: CLK, DI, POUT, P11, P12, B, A, HIT, NBO, VOLD, VOLU, VOLL

CN7: -7.5V, +7.5V, GND, L, GND, R

CN8: GND, GND, R, L, SW, SW

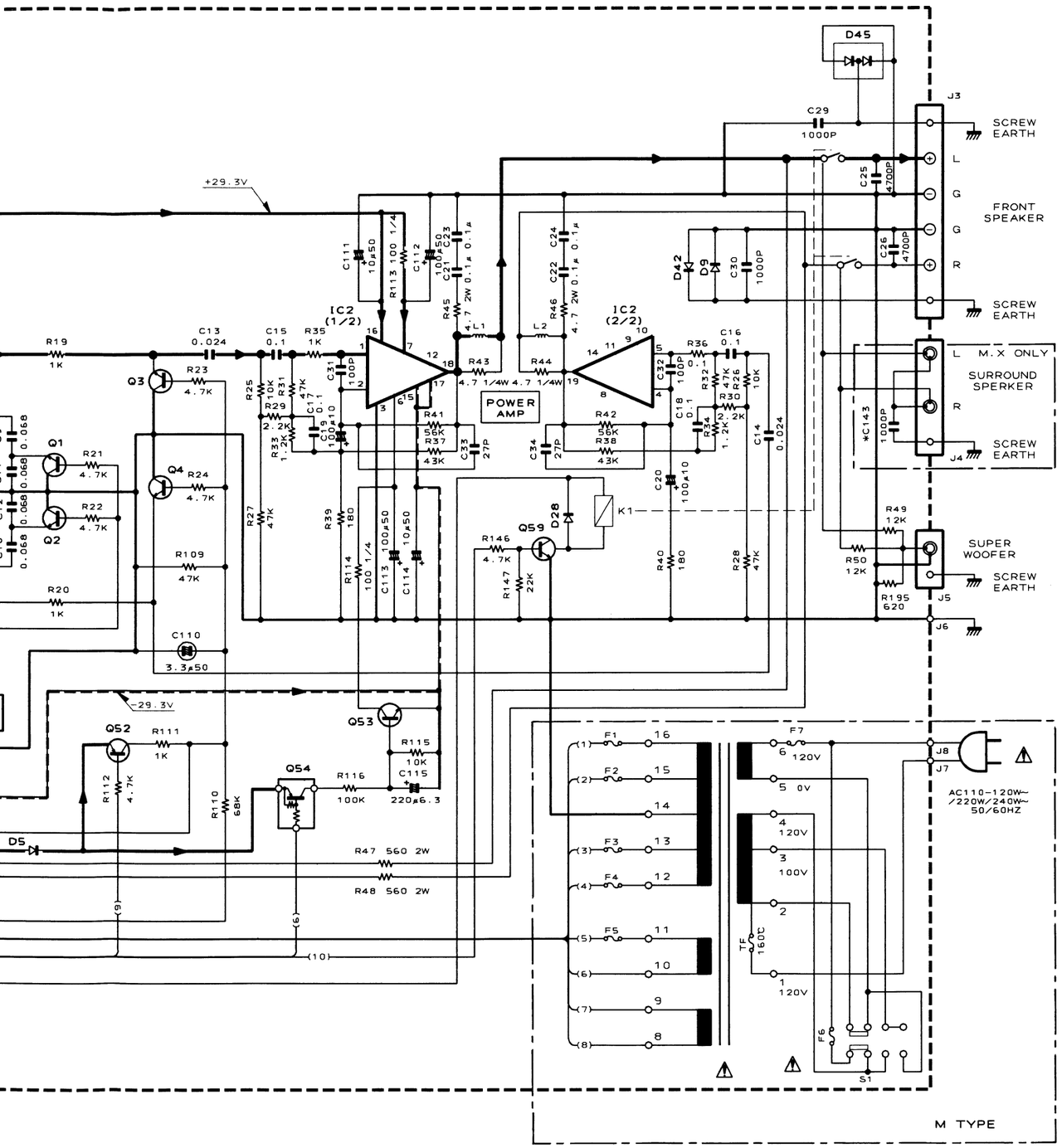
+5.6V +4.6V +4.2V +12.8V +7.5V -7.5V +5V -5.5V -13.1V -26.5V +29.3V -29.3V -12.9V

L OUT GND R OUT GND L IN GND R IN +5V +7.5V -7.5V CLK DI

(1~4, 8, 9, 11~15, 20, 21) (5~7, 10, 16~19) (6, 9, 10)

X-XX

COUNTRY	ABB.	AREF. NO / UNIT NAME	*C3, 4
USA CANADA	K P	X09-3570-10	NO
AUSTRALIA	X	X09-3570-71	
OTHER AREAS	M	X09-3370-21	
ENGLAMD EUROPE	T E	X09-3572-71	YES



IC1 : TC4052BP
IC2 : STK4140MK2 (K)
: STK4140MK5 (E)
: STK4150MK2 (M, X)
IC3 : TA8409S
IC4 : NJM45580
IC5 : µPC7805HF
IC13 : NJM45650-0

Q1, 2, 50 : 2SC1740S (Q, X)
or 2SC278S (F, E)
Q3, 4, 5, 6, 61 : 2SC2878 (B)
Q51 :
Q52, 57 : DTC124ES or RN1203
2SA933S (Q, R) or
2SA1175 (F, E)
Q53 : 2SC1845 (F, E)
Q54 : DAT124ES or RN2203
Q55 : 2SD1266 (Q, P)
Q56 : 2SB941 (Q, P)
Q58 : 2SB772 (Q, P)
Q59 : 2SC2003 (L, K)
Q62 : 2SA992 (F, E)

D1~8, 10, 11, 19, 28, 31, 37, 38 : 1SS133 or HSS104
D12, 24 : RD7.5JS (B) or HZS7.5S (B)
D13, 14 : RD8.2ES (B2) or HZS8.2N (B2)
D15~18, 20~23, 26, 39, 40 : 1SR139-100
D25 : RD30ES (B) or HZS30N (B)
D27 : RD13ES (B2) or HZS13N (B2)
D29 : D5SBA20F03
D30, 41 : R04.7ES (B2) or HZS4.7N (B2)
D45 : MA177

SIGNAL LINE
GND LINE
+B LINE
-B LINE

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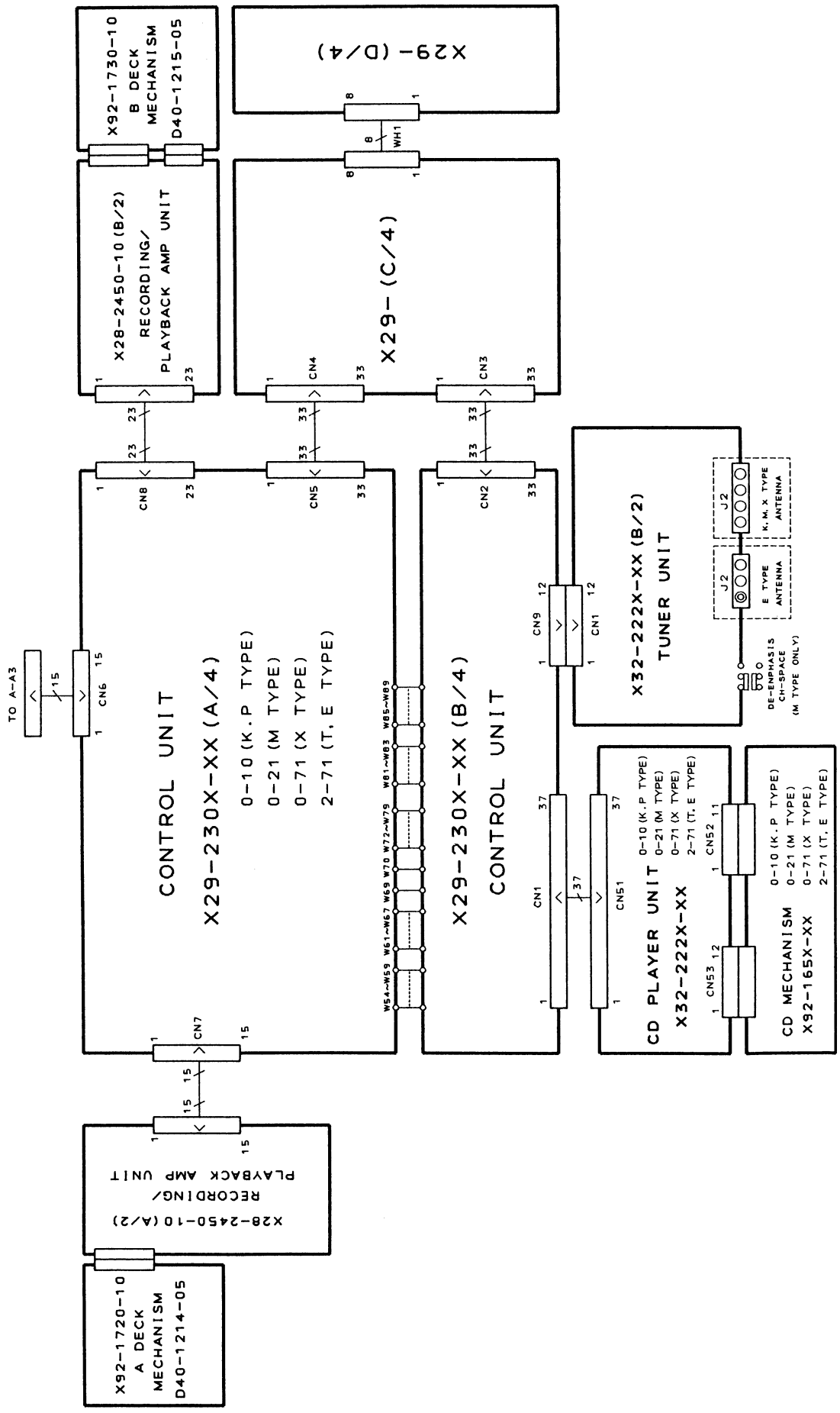
A-A3 2/2

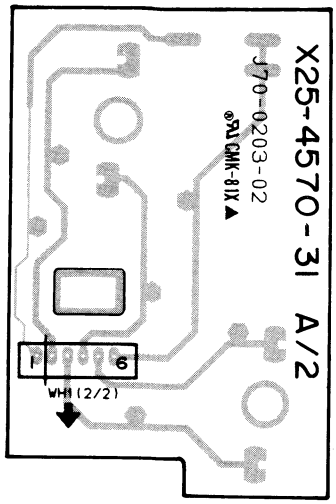
UD-300
KENWOOD

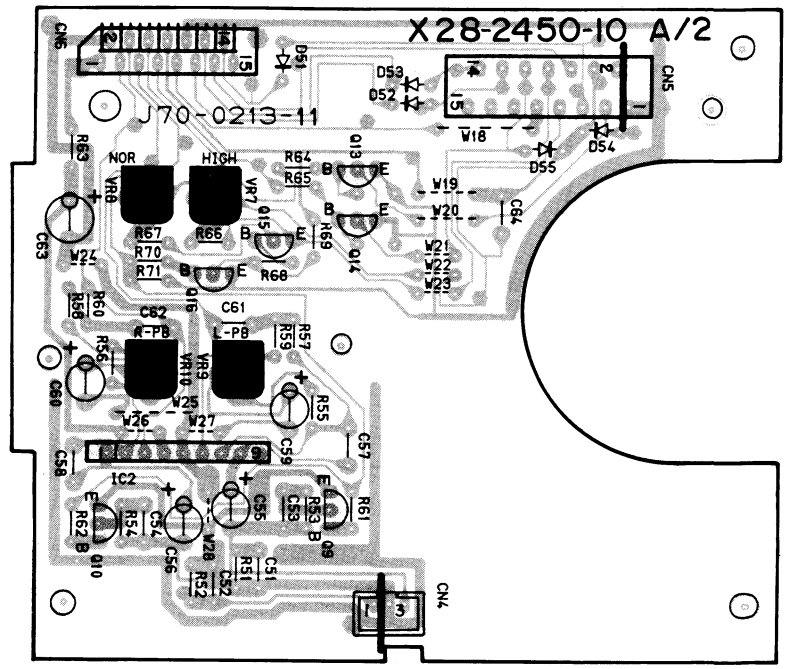
WIRING DIAGRAM

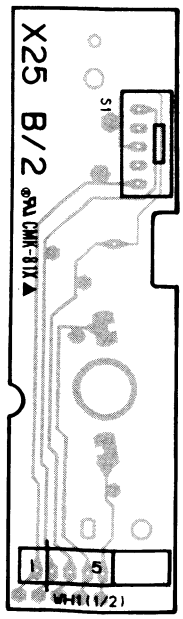
X-A3

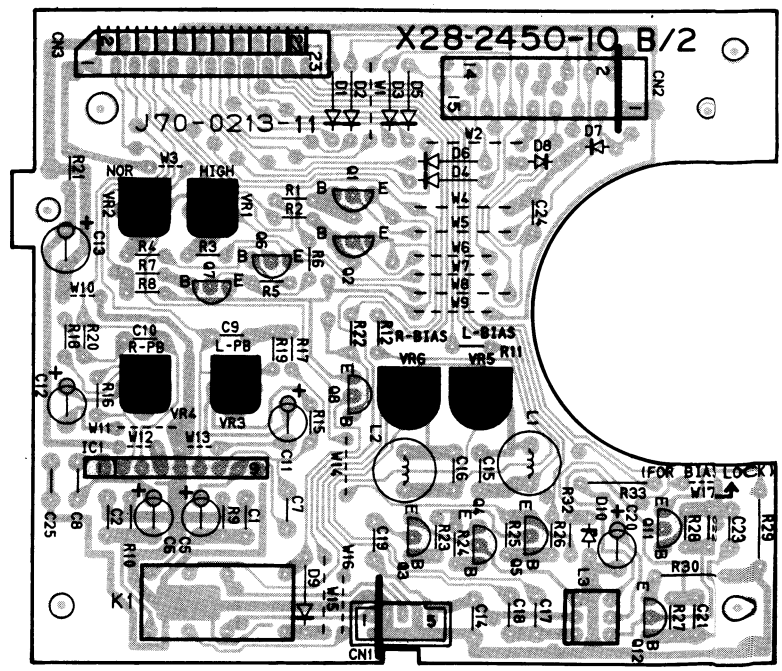


PC BOARD (Component side view)



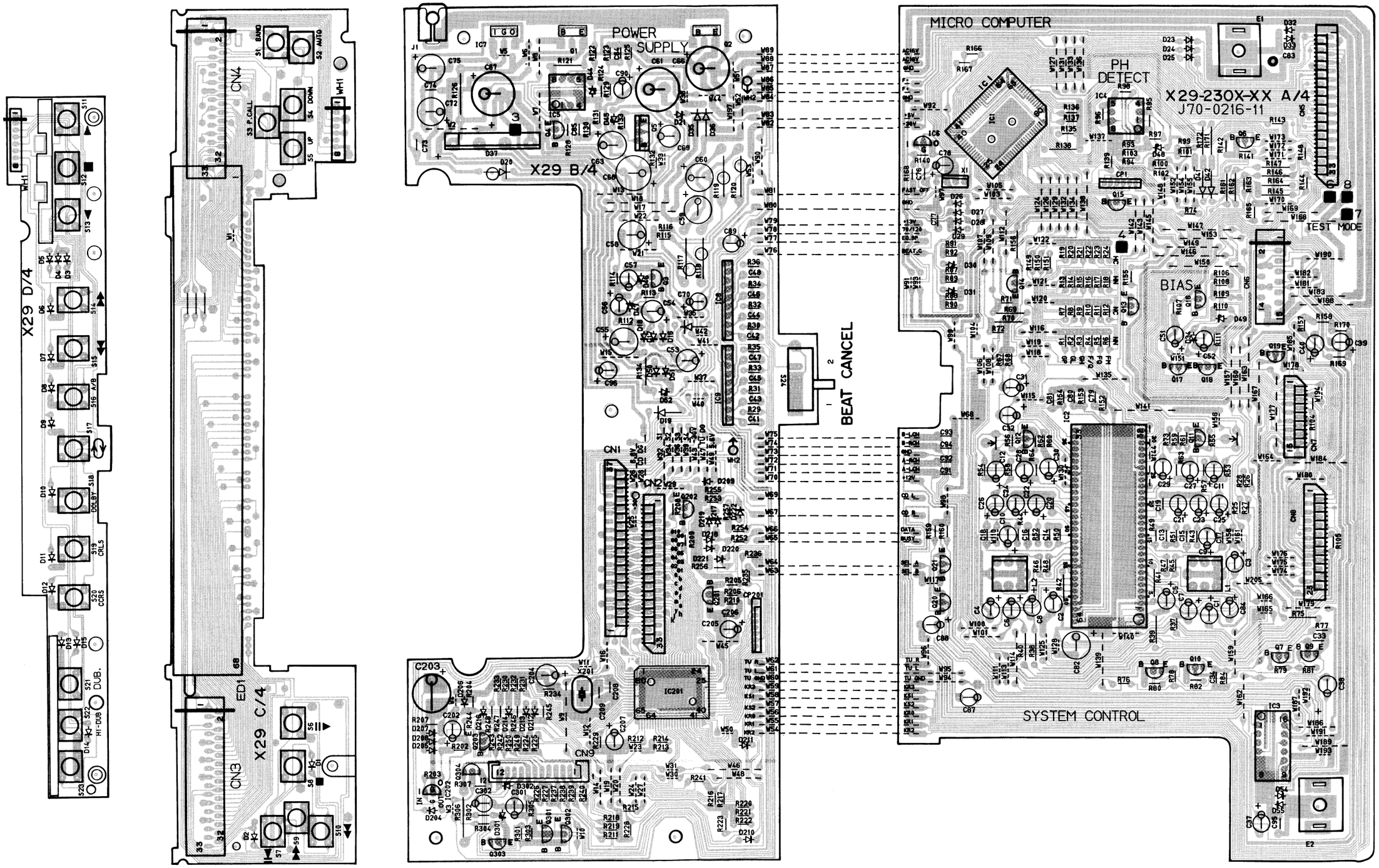






Refer to the schematic diagram for the values of resistors and capacitors.

PC BOARD (Component side view)



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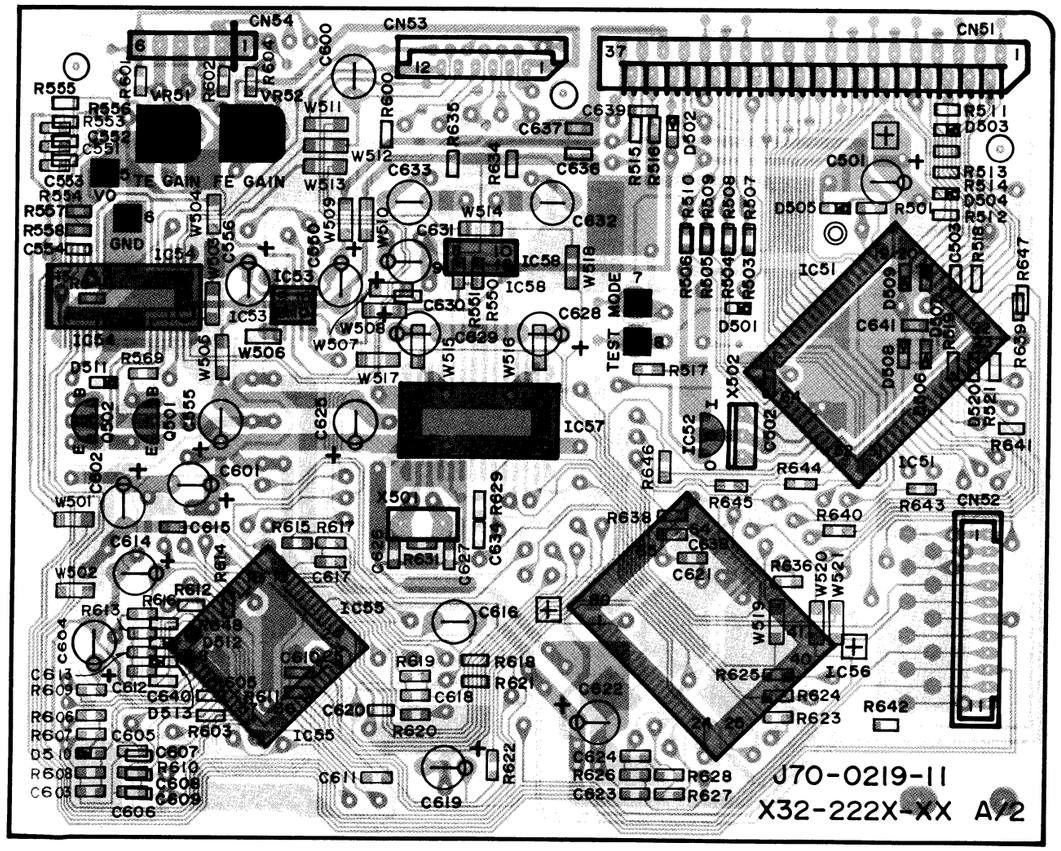
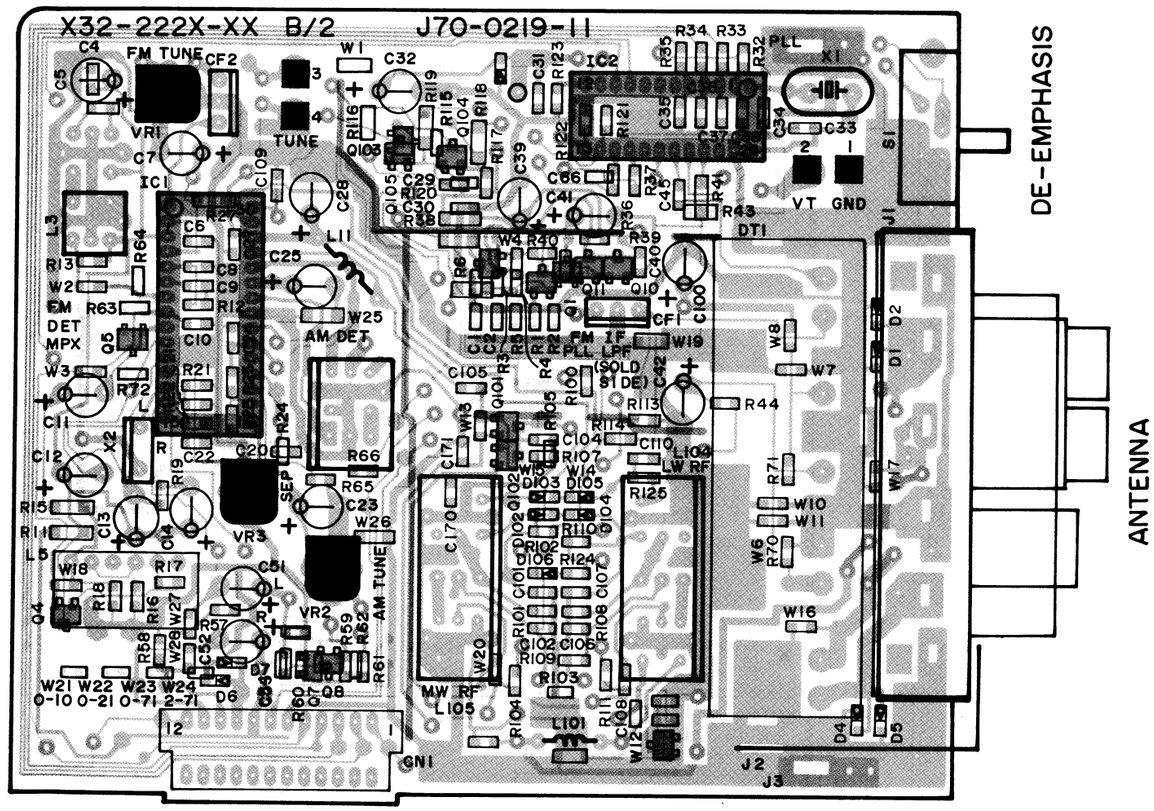




Refer to the schematic diagram for the values of resistors and capacitors.

X32-222X-XX B/2

VT 2
GND 1

L101 1μH

*A

ANT PIN
J1
FM 750 300Ω GND
AM ANT

DT1 (K.P.M.X)
FM FRONT-END (W02-1042-15)

RF AMP | MIX | DISTORTION

FET1 : 2SK241
TR1 : 2SC2668
TR2 : 2SC2995
TR3 : 2SC2669
D1~3 : ISV103

IF OUT TO CF1

TO C45 OSC OUT

W8 14.0V (FM)

C100 47μ16

*W9 AGC

C42 1μ50 Vt

+B 6

R44 220

R43 100

FM TUNE 3 4

*C103 0.022 *W20

*W12

*L105 MW/AM

*W15 *D103 *D102

*W14

*W13

*D106

*C108 0.022

*D104 *D105

L104 LW

*C110

*Q101 *Q102 4.8V (LW)

*Q106

*R126 *R127

11.2V 11.4V

R6 100

Q1 *CF1

LW+B *Q104
MW+B *Q105
FM+B Q103
FM ON

*R117 *R120 *R115

*R118 *R119 *R116

R39 8.2K

C40 0.022 C41 1μ50

*W4

Q10 Q11

R40 1K R41 10K

C39 47μ16

R123 82K *R122 82K *R121 82K

R65 10K R66 1.2K

L30-0467 L7

*R105 1K

C109 100P VR1 22K C28 10μ50 C27 0.047 C105

L11 1mH

V-REG AGC COMP AM IF FM LEVEL DET FM-IF

Vcc

*CF2 C6 0.047 C7 1μ50

*B

DT1 (T.E)
FM FRONT-END (W02-1041-15)

RF AMP | MIX | DISTORTION

J1
ANT PIN
FM 750
GND
AM ANT
SEALED BAN

*D4 *D5 *W16 *W17 *J2

FET1 : 3SK101
FET2 : 2SK241
TR1 : 2SC2668
TR2 : 2SC2995
TR3 : 2SC2669
D1~4 : ISV103

IF OUT TO CF1

OSC OUT TO C45

*R70 4.7K *R71 10K

TO GND TO R43 TO R44

IC2

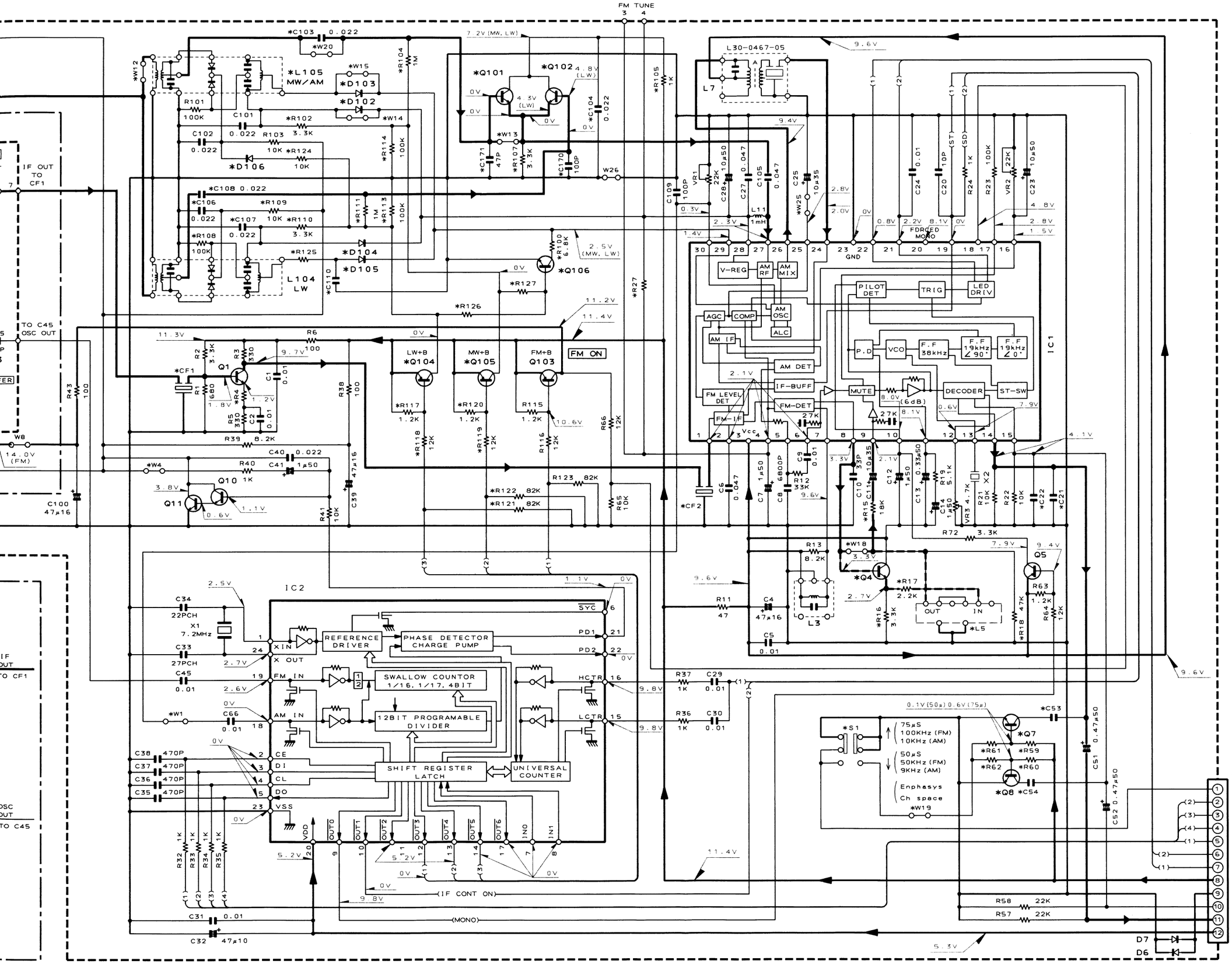
SYC PD1 PD2 HCTR LCTR

REFERENCE DRIVER
PHASE DETECTOR CHARGE PUMP
SWALLOW COUNTOR 1/16, 1/17, 4BIT
12BIT PROGRAMABLE DIVIDER
SHIFT REGISTER LATCH
UNIVERSAL COUNTER

X1 7.2MHz
C34 22PCH
C33 27PCH
C45 0.01
C66 0.01
C31 0.01
C32 47μ10

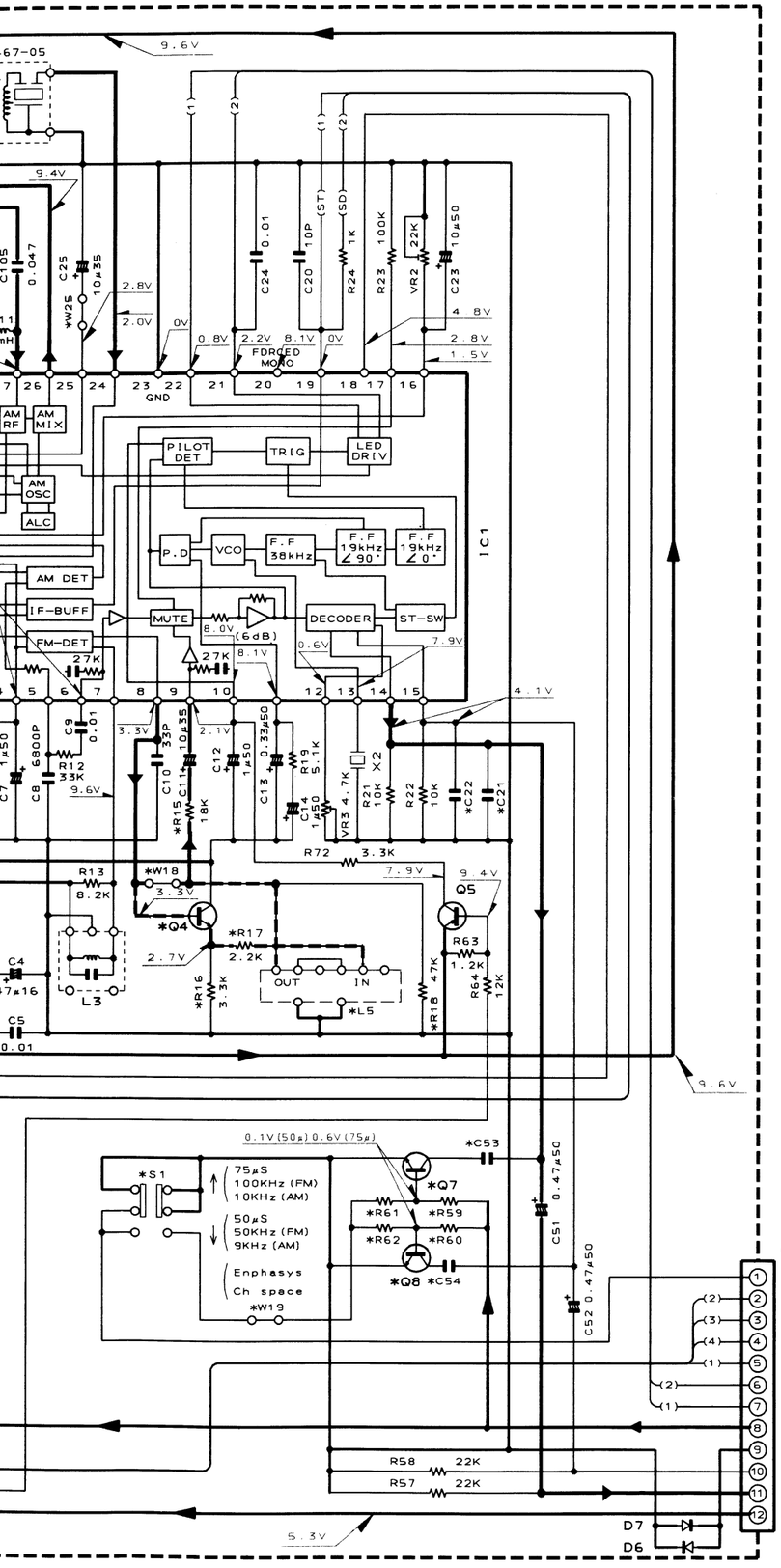
(IF CONT ON)
(MONO)

F	G	H	I	J	K	L	M	N	O	P



IC1	: LA1851N
IC2	: LC7218
Q5, 103~105	: 2SA1037K
Q4, 7, 8, 11, 12, 14, 15, 101, 102	: 2SC2412K
Q1	: 2SC2413K
Q10	: 2SC3115 (D27, D28)
Q13	: 2SK425 (X16, X17)
D3	: RD5.1ES (B2) or HZS5.1N (B2)
D1, 2, 4, 5 102~105	: MA110

X32-
Ⓐ
Ⓑ
C21, 22
C53, 54
C103
C106, 107
C110
C170
C171
CF1, 2 (1
D4, 5
D102
D103
W20
W14
W15
W9
D104
D105
D106
J2 (F
L5 (L
L104 (L
L105 (L
Q4
Q7, 8
Q101, 1
Q104, 1
Q106
R4
R15 (1
R16
R17
R18
R27 (1
R59, 60
R61, 62
R70
R71
R100
R102
R104
R105
R107
R108
R109
R110
R111
R113
R114
R117
R118 (
R119 (
R120
R121
R122
R124
R125
R126, 1
S1 (S3
W12
W13
W16
W17
W18
W19
W21
W22
W23
W24



IC1 : LA1851N
IC2 : LC7218

Q5, 103~105 : 2SA1037K

Q4, 7, 8, 11, 12, 14, 15, 101, 102 : 2SC2412K
Q1 : 2SC2413K
Q10 : 2SC3115 (D27, D28)
Q13 : 2SK425 (X16, X17)

D3 : RD5.1ES (B2) or HZS5.1N (B2)
D1, 2, 4, 5, 102~105 : MA110

X32-222	0-10	0-21	0-71	2-71
	K.P	M	X	T.E
Ⓐ	YES	YES	YES	NO
Ⓑ	NO	NO	NO	YES
C21, 22	0.012	8200P	8200P	8200P
C53, 54	NO	3900P	NO	NO
C103	NO	NO	NO	0.022
C106, 107, 108	NO	NO	NO	0.022
C110	NO	NO	NO	10P
C170	NO	NO	NO	100P
C171	NO	NO	NO	47P
CF1, 2 (L72-)	0531	0531	0531	0536
D4, 5	NO	NO	NO	YES
D102	NO	NO	NO	YES
D103	NO	NO	NO	YES
W20	YES	YES	YES	NO
W14	YES	YES	YES	NO
W15	YES	YES	YES	NO
W9	YES	YES	YES	NO
D104	NO	NO	NO	YES
D105	NO	NO	NO	YES
D106	NO	NO	NO	YES
J2 (F10-)	NO	NO	NO	0759
L5 (L79-)	NO	NO	NO	0125
L104 (L39-)	NO	NO	NO	1307
L105 (L39-)	0192	0192	0192	1306
Q4	NO	NO	NO	YES
Q7, 8	NO	YES	NO	NO
Q101, 102	NO	NO	NO	YES
Q104, 105	NO	NO	NO	YES
Q106	NO	NO	NO	YES
R4	33	33	33	10
R15 (1/8W)	18K	18K	18K	15K
R16	NO	NO	NO	3.3K
R17	NO	NO	NO	2.2K
R18	NO	NO	NO	47K
R27 (1/8W)	8.2K	27K	27K	27K
R59, 60	NO	47K	NO	NO
R61, 62	NO	560	NO	NO
R70	NO	NO	NO	YES
R71	NO	NO	NO	10K
R100	NO	NO	NO	6.8K
R102	NO	NO	NO	3.3K
R104	NO	NO	NO	1M
R105	NO	NO	NO	1K
R107	NO	NO	NO	3.3K
R108	NO	NO	NO	100K
R109	NO	NO	NO	10K
R110	NO	NO	NO	3.3K
R111	NO	NO	NO	1M
R113	NO	NO	NO	100K
R114	NO	NO	NO	100K
R117	NO	NO	NO	1.2K
R118 (1/8W)	NO	NO	NO	12K
R119 (1/8W)	NO	NO	NO	12K
R120	NO	NO	NO	1.2K
R121	NO	NO	NO	82K
R122	NO	NO	NO	82K
R124	NO	NO	NO	10K
R125	NO	NO	NO	47
R126, 127	NO	NO	NO	10K
S1 (S31-)	NO	2094	NO	NO
W12	YES	YES	YES	NO
W13	YES	YES	YES	NO
W16	NO	NO	NO	YES
W17	NO	NO	NO	YES
W18	YES	YES	YES	NO
W19	NO	YES	NO	NO
W21	YES	NO	NO	NO
W22	NO	YES	NO	NO
W23	NO	NO	YES	NO
W24	NO	NO	NO	YES

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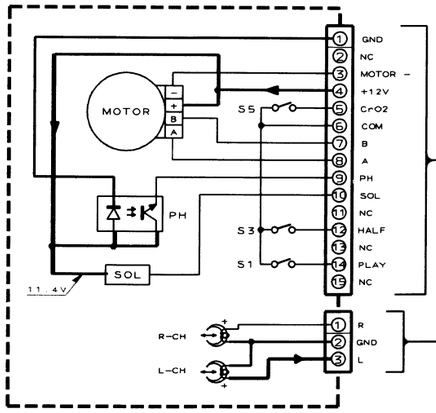
SIGNAL LINE
REG LINE
GND LINE
+B LINE

TO X29-B/4 CN9
Ⓐ 3/4

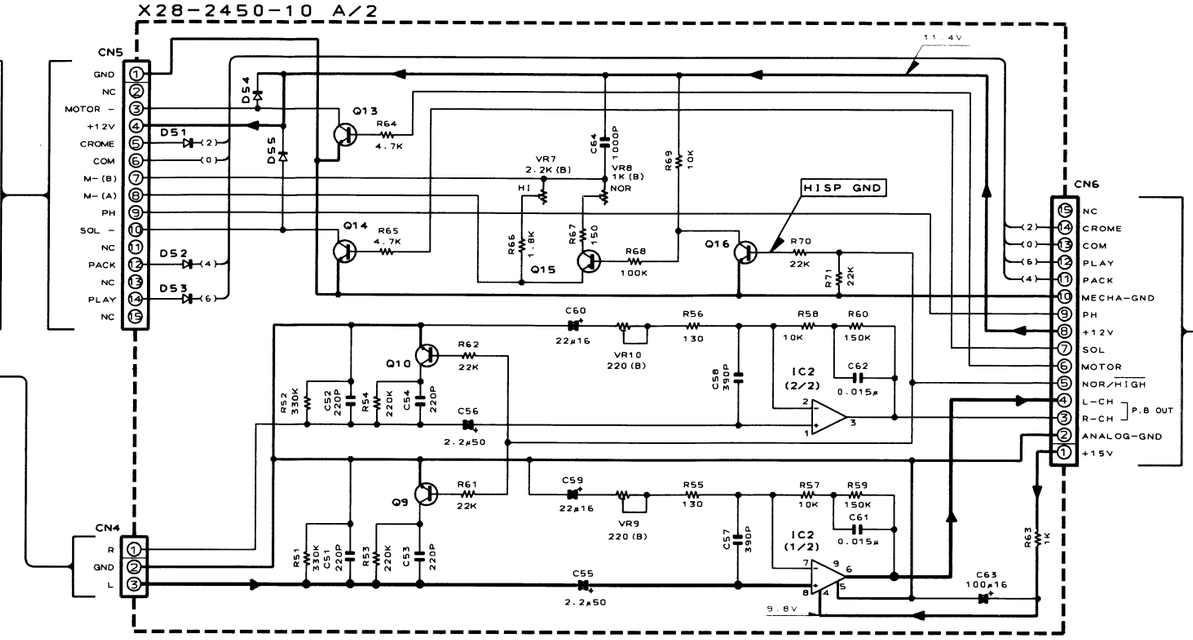
Y08-4550-10

UD-300
KENWOOD

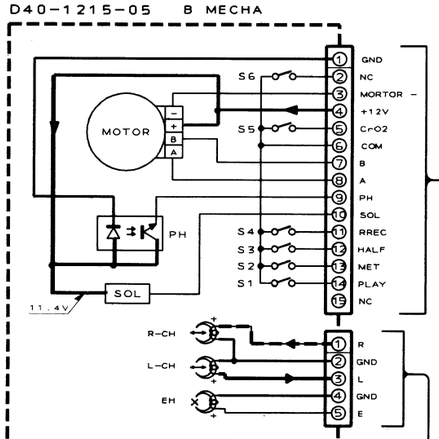
D40-1214-05 A MECHA



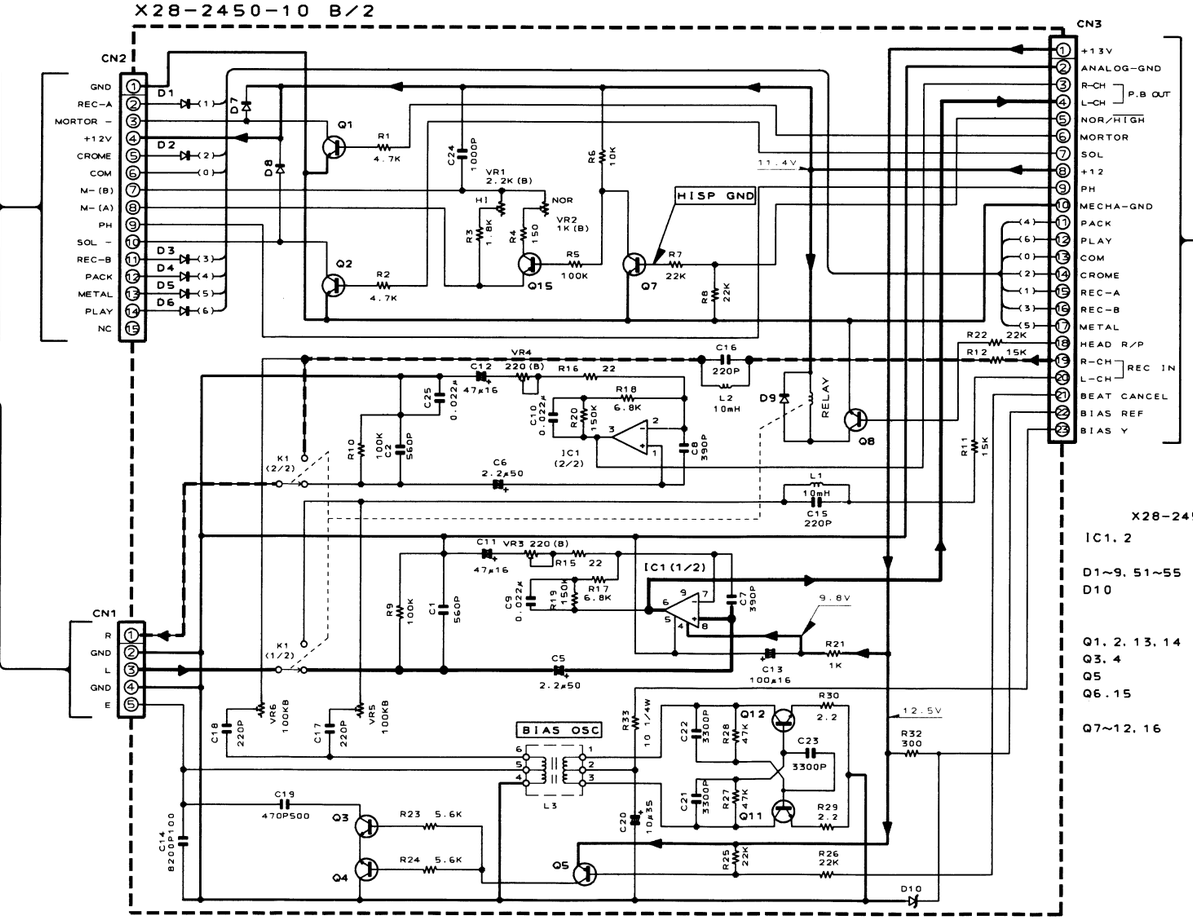
X28-2450-10 A/2



D40-1215-05 B MECHA



X28-2450-10 B/2

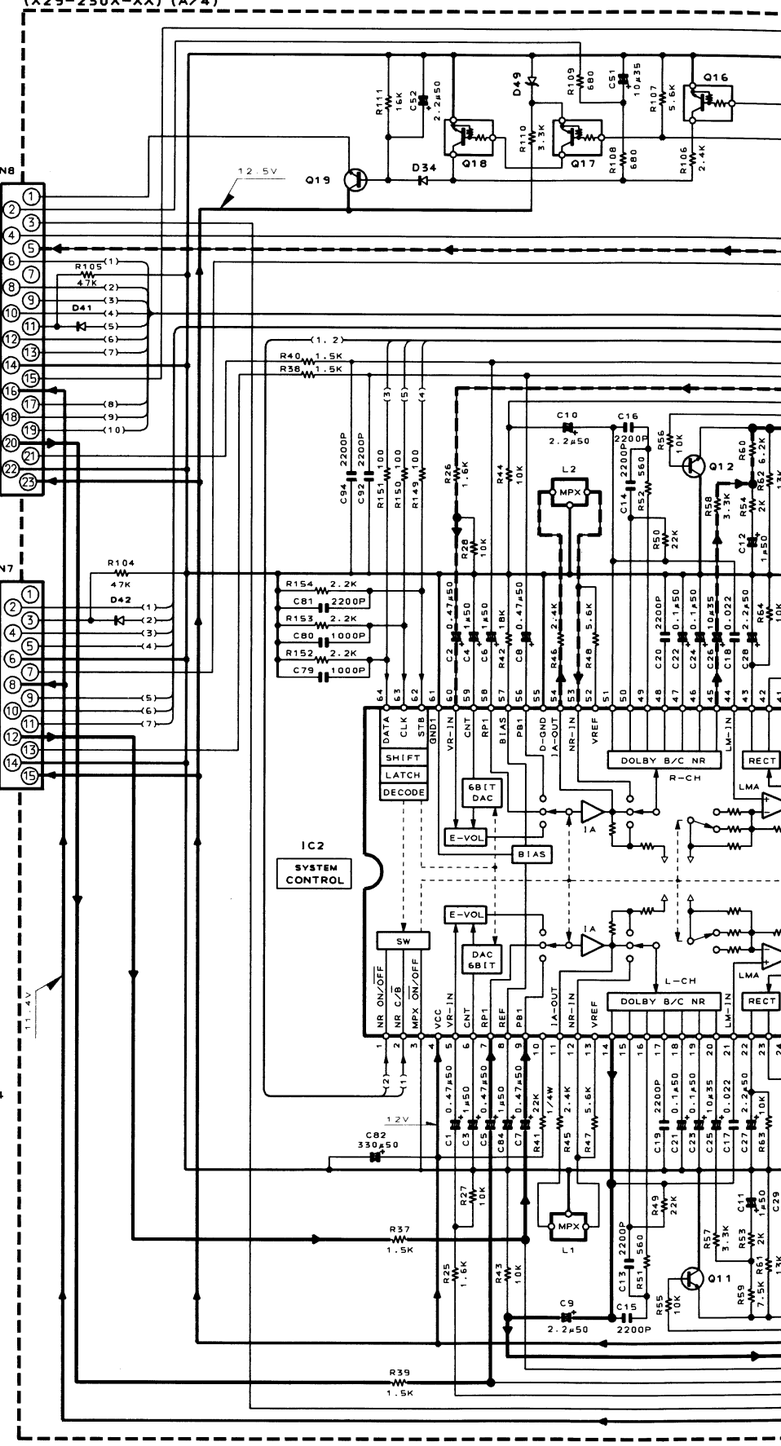


IC1	: CXP82324-104Q
IC2	: HA12157NT
IC3	: XRU4052B or TC4052BP
IC4	: BA10393
IC6	: PST529D
Q6	: 2SA1175 (F, E) or 2SA933S (Q, R)
Q7~10	
Q11, 12	: 2SC2878 (B)
Q13, 15, 17	: RN2203 or DTA124ES
Q14, 16, 18, 20, 21	: RN1203 or DTC124ES
Q19	: 2SC3940A

X28-2450-10

IC1, 2	: TA81255
D1~9, 51~55	: 1SS133or HSS104
D10	: RD13ES (B2) or HZS13N (B2)
Q1, 2, 13, 14	: 2SC3246
Q3, 4	: 2SC1845 (F, E)
Q5	: 2SA992 (F, E)
Q6, 15	: 2SA1175 (F, E) or 2SA933S (Q, R)
Q7~12, 16	: 2SC2785 (F, E) or 2SC1740S (Q, R)

(X29-230X-XX) (A/4)



AB | AC | AD | AE | AF | AG | AH | AI | AJ | AK

IC1	: CXP82324-104Q	Q6	: 2SA1175 (F, E) or 2SA933S (Q, R)	D23~34, 53~54	: 1SS133 or HSS104
IC2	: HA12157NT	Q7~10		D41, 42	: RB721Q
IC3	: XRU4052B or TC4052BP	Q11, 12	: 2SC2878 (B)	D48	: RD2.7ES (B2) or HZS2.7N (B2)
IC4	: BA10393	Q13, 15, 17	: RN2203 or DTA124ES	D49	: RD4.7ES (B) or HZS4.7 (B)
IC6	: PST529D	Q14, 16, 18, 20, 21	: RN1203 or DTC124ES		
		Q19	: 2SC3940A		

(X29-230X-XX) (A/4)

CN6: NC, CROME, COM, PLAY, PACK, MECHA-GND, PH, +12V, SOL, MOTOR, NOR/HIGH, L-CH / R-CH (P.B OUT), ANALOG-GND, +15V

CN3: +13V, ANALOG-GND, R-CH / L-CH (P.B OUT), NOR/HIGH, MORTOR, SOL, +12, PH, MECHA-GND, PACK, PLAY, COM, CROME, REC-A, REC-B, METAL, HEAD R/P, R-CH / L-CH (REC IN), BEAT CANCEL, BIAS REF, BIAS Y

CN8: BIAS V, BIAS REF., BEAT CANCEL, L-ch, R-ch, HEAD R/P, NC, REC-B, REC-A, CrO2, COM, PLAY, PACK, MECHA-GND, PH B, +12V, SOL, MOTOR, NOR/HIGH, L-ch, R-ch, ANALOG-GND, +13V

CN7: NC, CrO2, COM, PLAY, PACK, MECHA-GND, PH A, +12V, SOL, MOTOR, NOR/HIGH, L-ch, R-ch, ANALOG-GND, +13V

CN5 (TUNER): KS2, KS5, KS4, KR2, KR1, KR0, KS2, KS1, F+, F−, S5, S6, S7, S8, S9, S11, S12, S13, S14, S15, S16, S17, S18, S19, S20, S21, S22, KR4, KR3, KR2, KR1, KR0, KR3 (TUNER)

IC1 DECK µ-COM (BOTTOM VIEW): SOL, CPM, CPS, LEVEL L, LEVEL R, RESET, EXTAL, XTAL, VSS, S5, S6, S7, S8, S9, S11, S12, S13, S14, S15, S16, S17, S18, S19, S20, S21, KS0, KS1, KS2, KS3, KS4, SYNCRO, DATA, B-RM, KR4, KR3, KR2, KR1, KR0, MPX ON/OFF, DOLBY B/C, DOLBY ON/OFF, DATA, ST8, CLK, B-R/P, LM, S22, PH IN B, PH IN A, TEST1, BIAS ON/OFF, B-NOR, PB EQ 70/120, NC, VDD, VFDP

IC2 SYSTEM CONTROL: DATA, CLK, STB, GND1, SHIFT, LATCH, DECODE, 6BIT DAC, E-VOL, BIAS, SW, NR ON/OFF, NR C/B, MPX ON/OFF, VR-IN, VCC, CNT, RP1, REF, PB1, D-GND, IA-OUT, NR-IN, VREF, DOLBY B/C NR, R-CH, L-CH, IA, LMA, RECT, REC EQ, REC-EQ CONTROLER, DAC 6BIT, GND2, FM, FQ, F/Q, GH, GL, GP, MPX, L1, L2

IC3: VDD, Y0, Y2, Y, X1, X, X0, X2, Y3, Y1, INH, VEE, VSS, A, B

IC4 (2/2), IC4 (1/2)

X28-2450-10

IC1, 2	: TA81255
D1~9, 51~55	: 1SS133or HSS104
D10	: RD13ES (B2) or HZS13N (B2)
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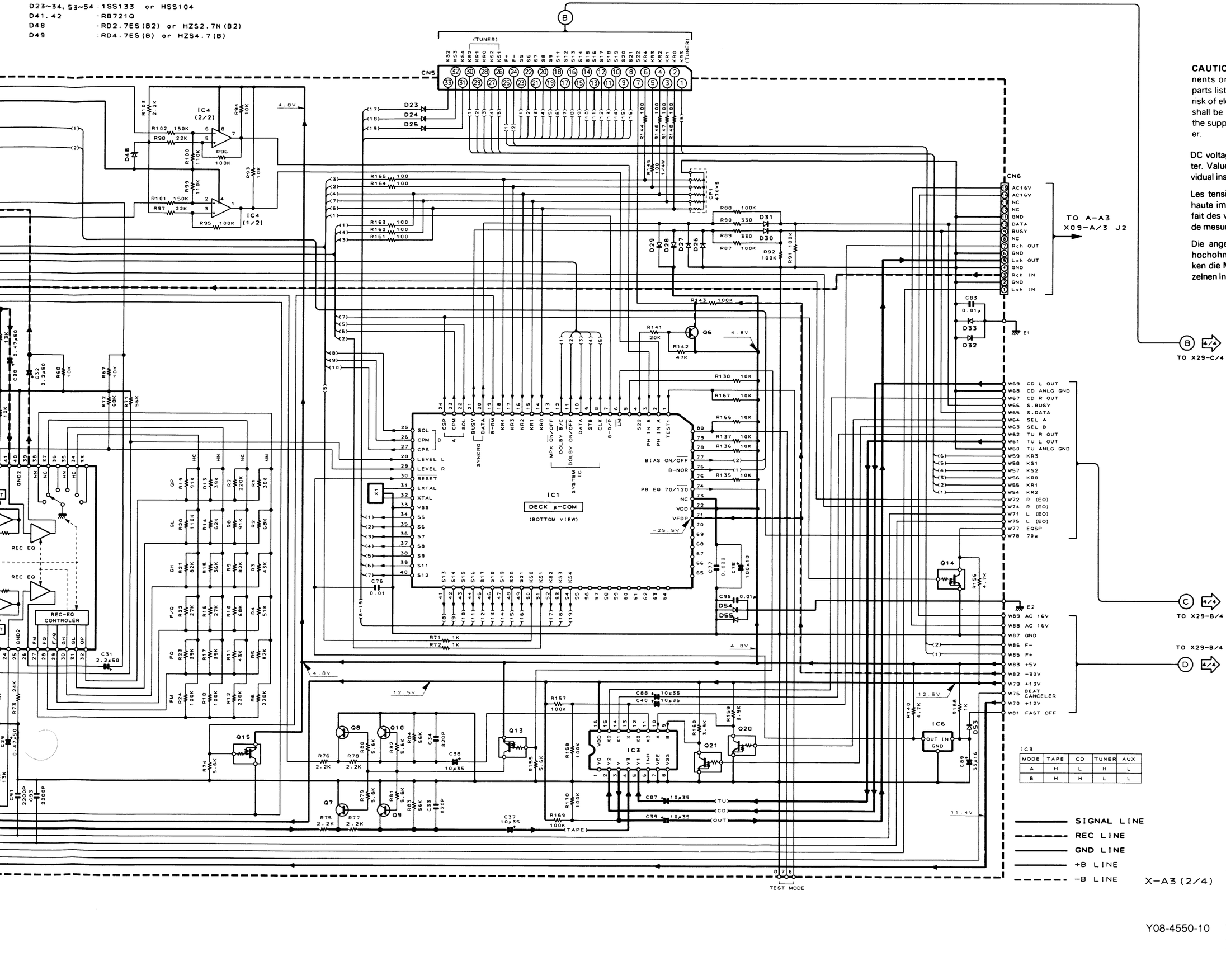
Q3, 4	: 2SC1845 (F, E)
Q5	: 2SA992 (F, E)
Q6, 15	: 2SA1175 (F, E) or 2SA933S (Q, R)
Q7~12, 16	: 2SC2785 (F, E) or 2SC1740S (Q, R)

D23~34, 53~54 : 1SS133 or HSS104
D41, 42 : RB721Q
D48 : RD2.7ES(B2) or HZS2.7N(B2)
D49 : RD4.7ES(B) or HZS4.7(B)



IC3 MODE	TAPE	CD	TUNER	AUX
A	H	L	H	L
B	H	H	L	L

SIGNAL LINE
REC LINE
GND LINE
+B LINE
-B LINE

X-A3 (2/4)

Y08-4550-10

UD-300

KENWOOD

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(X32-222X-XX)

X92-1650-31

X25-4570-31

S1 OPEN/CLOSE SW
S2 LIMIT SW
M1 FEED MOTOR
M2 SPINDOL MOTOR
M3 LOADING MOTOR

J70-0203-02 A/2

J70-0203-02 B/2

PICKUP KSS-240A T25-0013-05

LD POWER

TRK VOL

FCS BIAS

CN53

CN52

CN54

IC54 MOTOR, COIL DRIVER

IC55 (BOTTOM VIEW) EFM COMPARATOR SERVO IC

IC56 D.S.P

IC53 (BOTTOM VIEW)

16.9344MHz

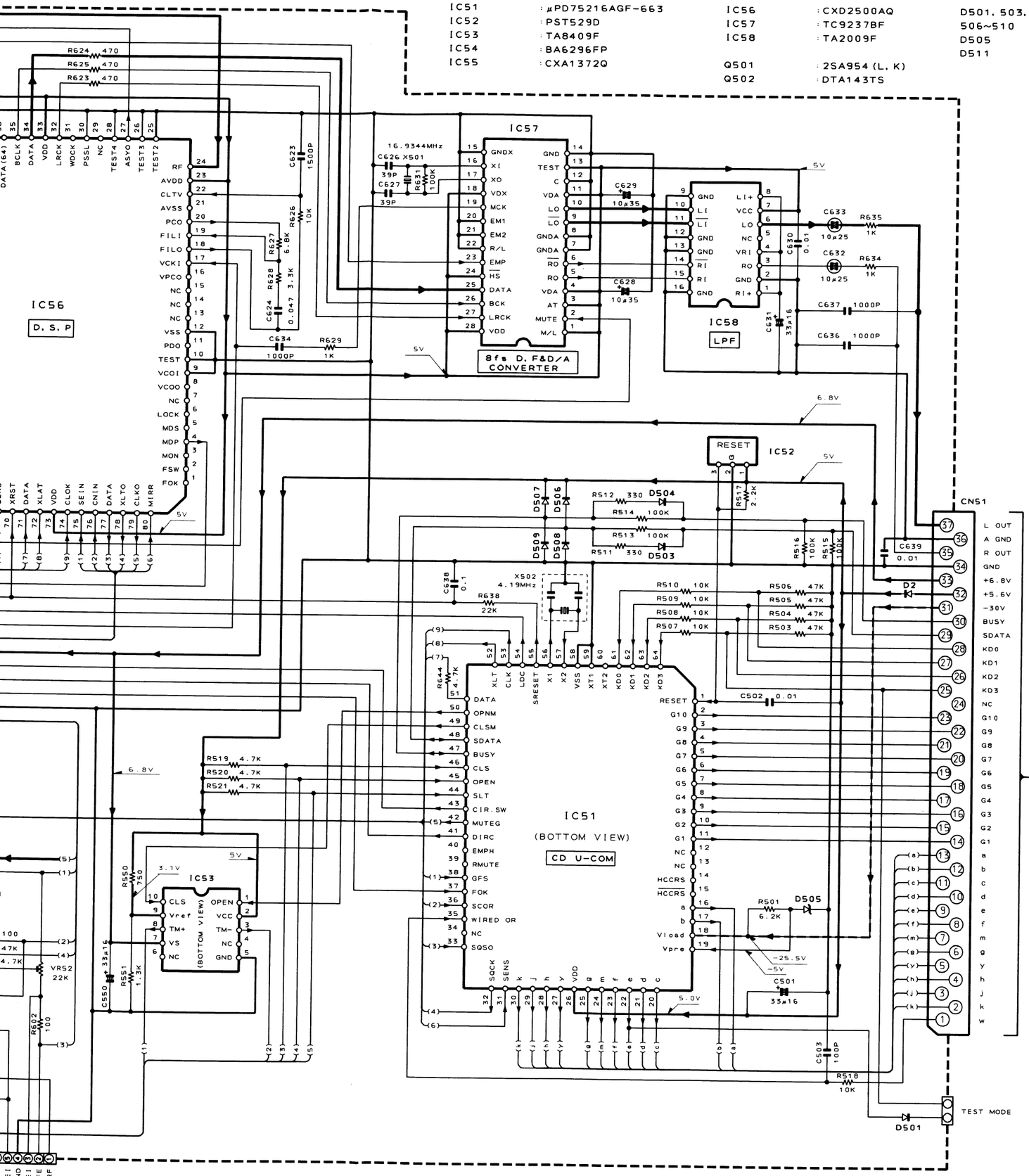
Q501

Q502

D511 3.3ES

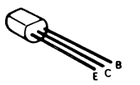
D510

IC51	: μPD75216AGF-663	IC56	: CXD2500AQ	D501, 503, 504	: MA110
IC52	: PST529D	IC57	: TC9237BF	506~510	
IC53	: TA8409F	IC58	: TA2009F	D505	: MA8051-M
IC54	: BA6296FP			D511	: MA8033
IC55	: CXA1372Q	Q501	: 2SA954 (L, K)		
		Q502	: DTA143TS		

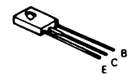


SIGNAL LINE
GND LINE
+B LINE
-B LINE

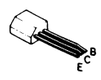
X-A3 (3/4)



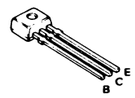
2SA954 2SC1845 2SC3246
2SA992 2SC2003 2SC3940A
2SA999 2SC2878 2SD1302



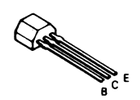
2SB772



RN1203

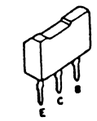


2SA1175
2SC2785



DTA124ES RN2203
DTA143TS 2SA933S
DTC124ES 2SC1740S

2SA1037K 2SC2413K
2SC2412K 2SC3115



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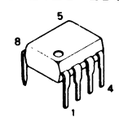

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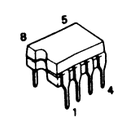

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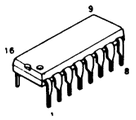
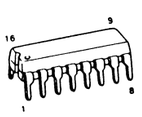
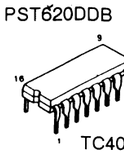
NJM4565-D
PST620DDB



XRU4052B



LB1294



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TC9215P
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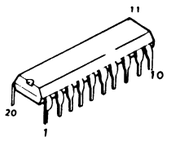

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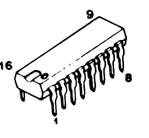
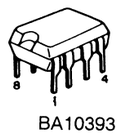


XR-1091ECP



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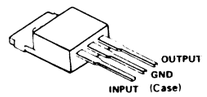
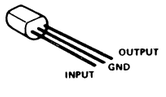
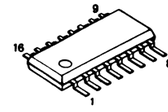
RC4565D



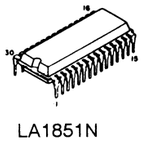
UPC7805HF



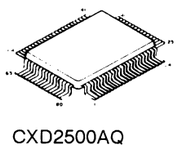
PST529D



TA2009F



LA1851N



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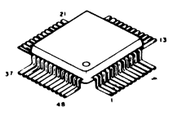
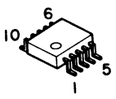
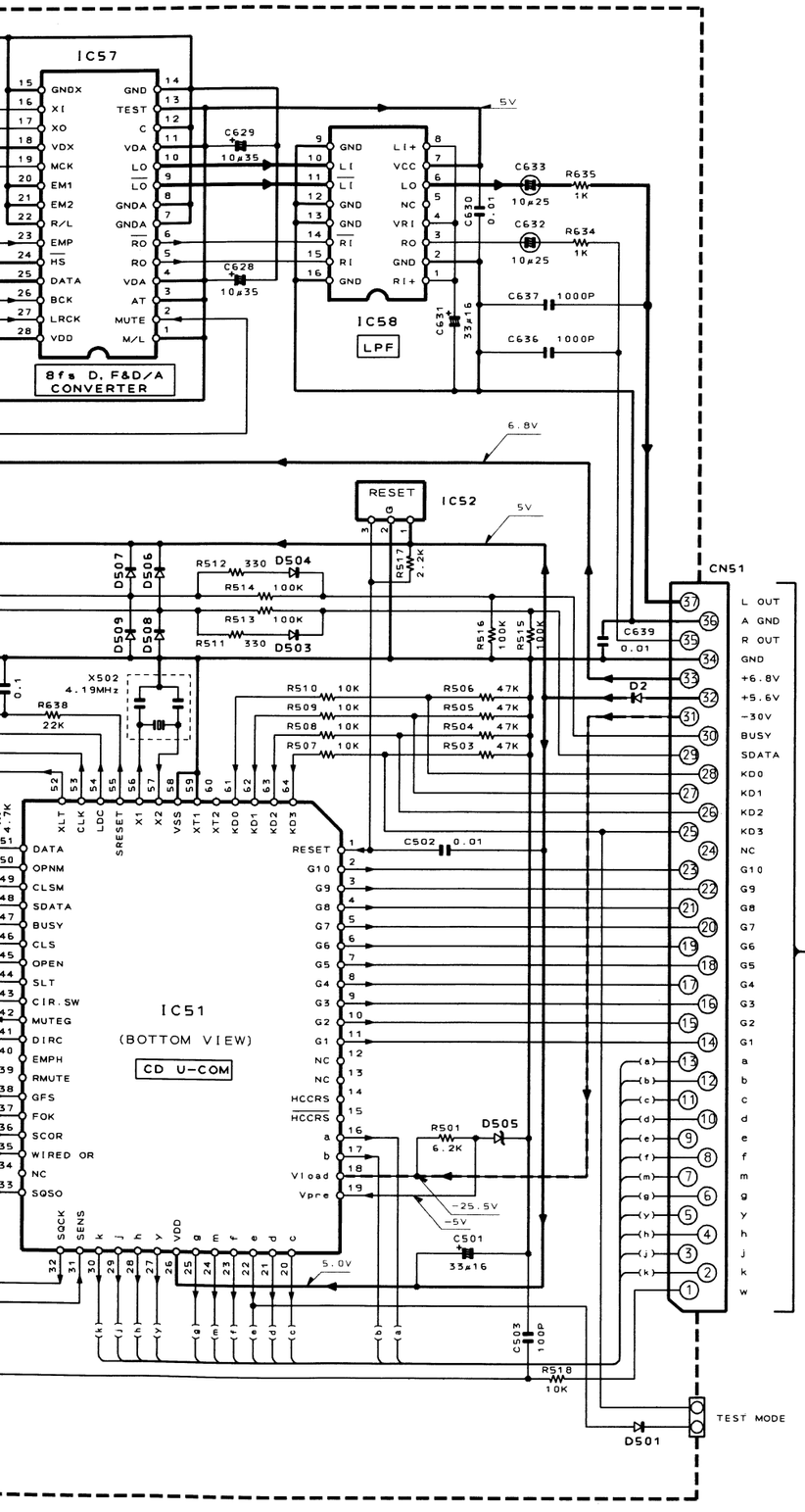


CXA1372Q

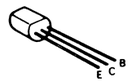


TA8409F

C51	: μPD75216AGF-663	IC56	: CXD2500AQ	D501, 503, 504	: MA110
C52	: PST529D	IC57	: TC9237BF	506~510	
C53	: TA8409F	IC58	: TA2009F	D505	: MA8051-M
C54	: BA6296FP			D511	: MA8033
C55	: CXA1372Q	Q501	: 2SA954 (L, K)		
		Q502	: DTA143TS		

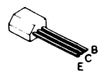


X-A3 (3/4)

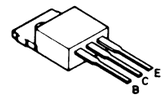


2SA954 2SC1845 2SC3246
2SA992 2SC2003 2SC3940A
2SA999 2SC2878 2SD1302

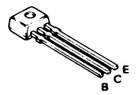
2SB772



RN1203



2SD1266



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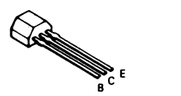
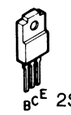
2SC2785



DTA124ES RN2203
DTA143TS 2SA933S
DTC124ES 2SC1740S

2SA1037K 2SC2413K
2SC2412K 2SC3115



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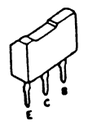
2SC3944A
2SD2061



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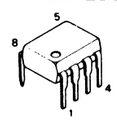

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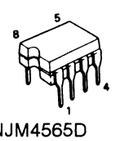
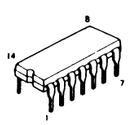


NJM4565D
NJM4565-D
PST620DDB



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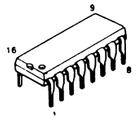

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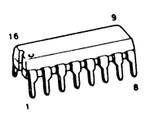
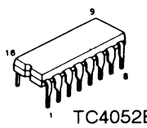


LB1294



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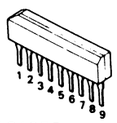
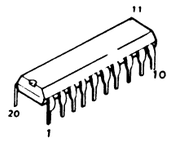


TA8125S
TA8409S
TD62554S



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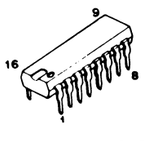
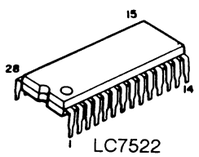
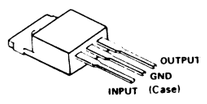


XR-1091ECP

BA10393
RC4565D



LC7522



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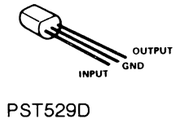

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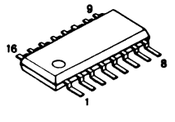

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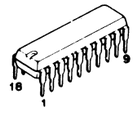

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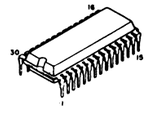

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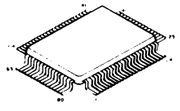

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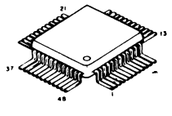

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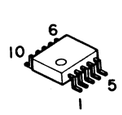


TA8409F

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

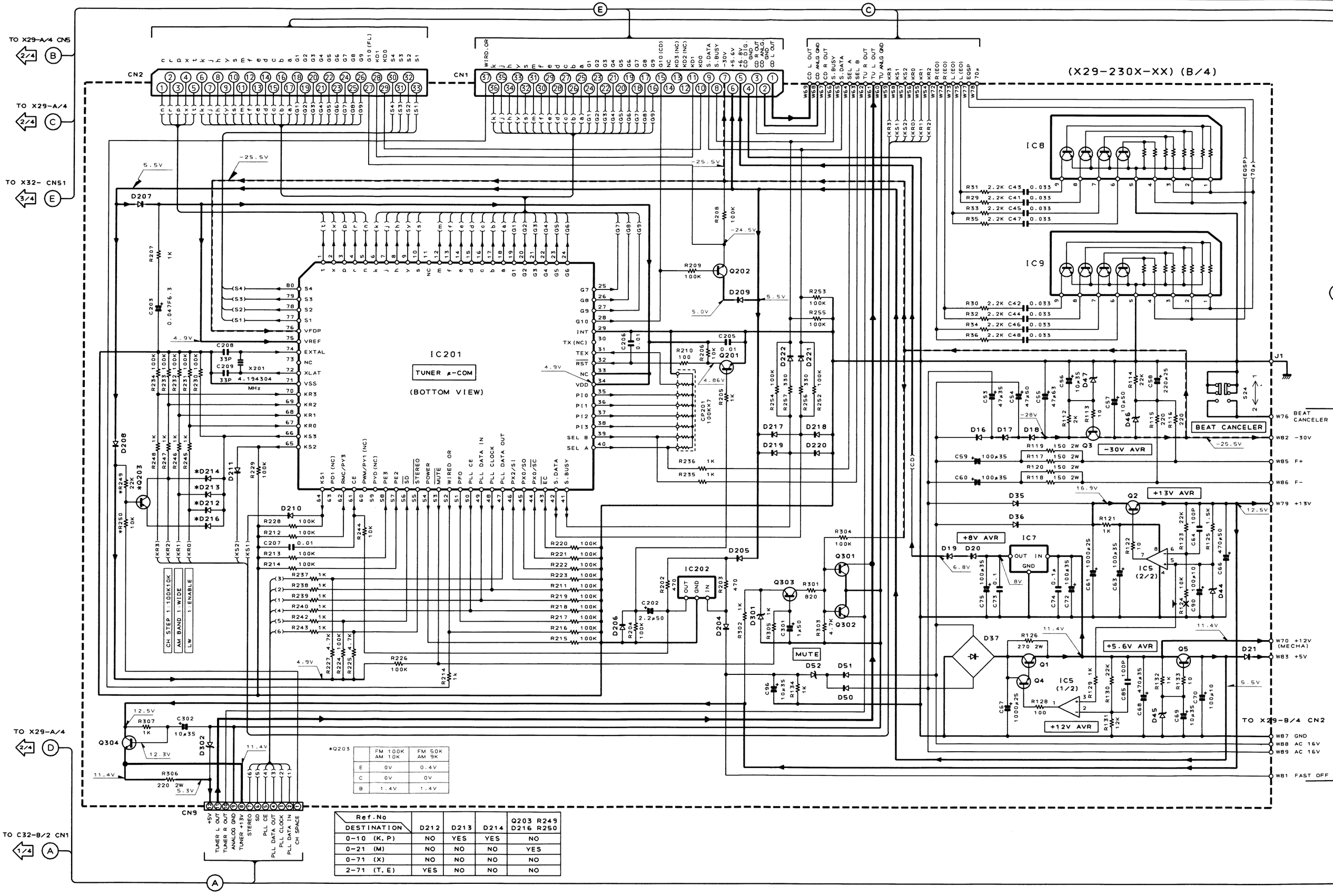
Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.

Y08-4550-10

UD-300

KENWOOD



*Q203

	FM 100K AM 10K	FM 50K AM 9K
E	0V	0.4V
C	0V	0V
B	1.4V	1.4V

Ref.No / DESTINATION	D212	D213	D214	Q203 R249 D216 R250
0-10 (K, P)	NO	YES	YES	NO
0-21 (M)	NO	NO	NO	YES
0-71 (X)	NO	NO	NO	NO
2-71 (T, E)	YES	NO	NO	NO

(X29-230X-XX) (B/4)

X29- (C/4)

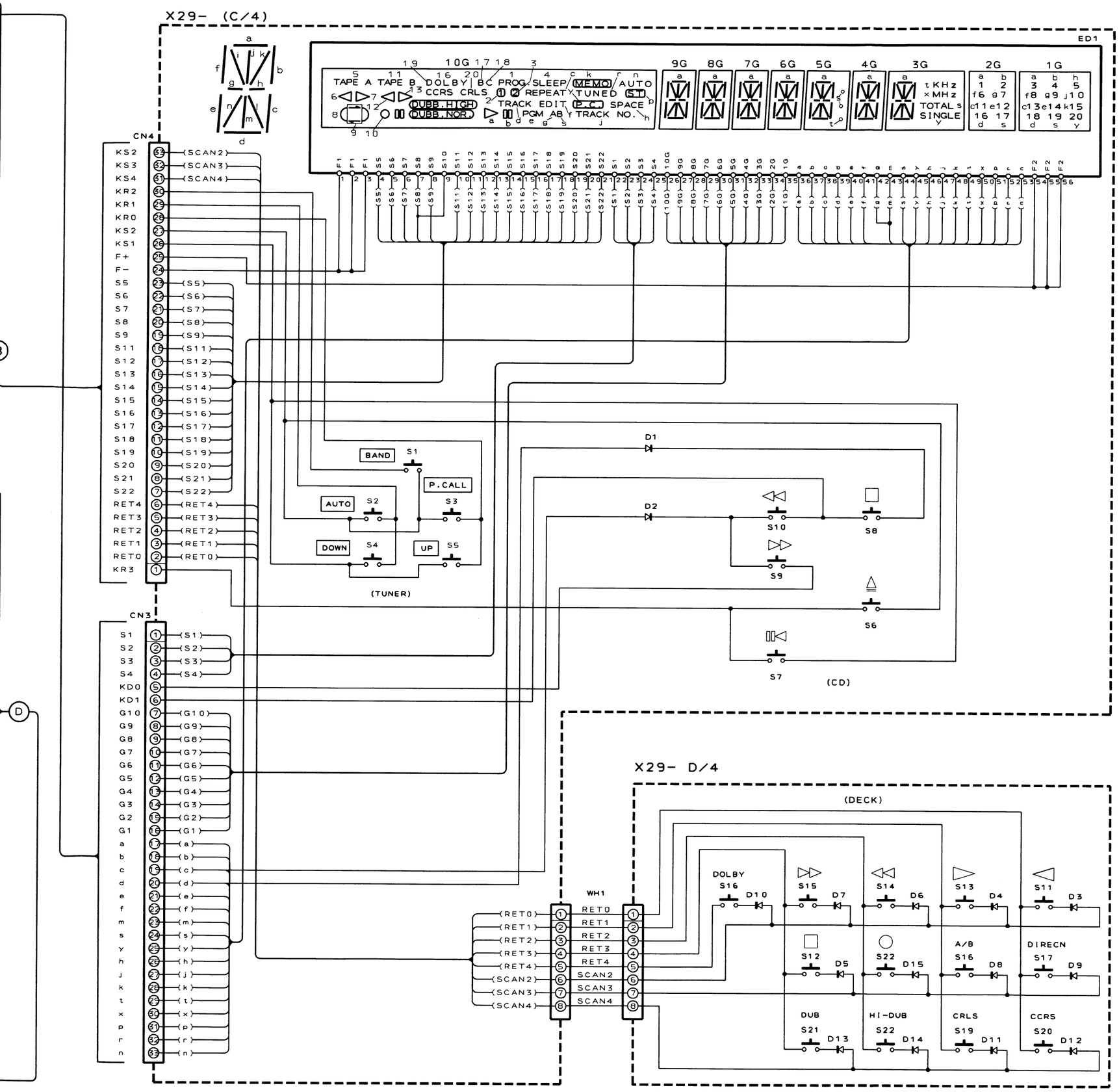
X29- D/4

(DECK)

(TUNER)

(CD)

TO X29-B/4 CN2


X29- (C/4)
ED1
TAPE A TAPE B DOLBY BC PROG SLEEP MEMO AUTO
CCRS CRLS REPEAT TUNED ST
DUBB.HIGH TRACK EDIT P.C. SPACE
DUBB.NOR PGM AB TRACK NO.
9G 8G 7G 6G 5G 4G 3G 2G 1G
tKHz ×MHz TOTAL s SINGLE
CN4
KS2 KS3 KS4 KR2 KR1 KR0 KS2 KS1 F+ F− S5 S6 S7 S8 S9 S11 S12 S13 S14 S15 S16 S17 S18 S19 S20 S21 S22 RET4 RET3 RET2 RET1 RET0 KR3
BAND S1
P.CALL S3
AUTO S2
DOWN S4
UP S5
(TUNER)
D1
D2
S10
S8
S9
S6
S7
(CD)
CN3
S1 S2 S3 S4 KD0 KD1 G10 G9 G8 G7 G6 G5 G4 G3 G2 G1 a b c d e f m s y h j k t x p r n
WH1
RET0 RET1 RET2 RET3 RET4 SCAN2 SCAN3 SCAN4
X29- D/4
(DECK)
DOLBY S16 D10
S15 D7
S14 D6
S13 D4
S11 D3
S12 D5
S22 D15
A/B S16 D8
DIRECN S17 D9
DUB S21 D13
HI-DUB S22 D14
CRLS S19 D11
CCRS S20 D12

X29-230X-XX(B/4)

IC5	: RC4565D or NJM4565D
IC7	: μPC7808HF
IC8, 9	: TD62554S
IC201	: CXP-50116-380Q
IC202	: PST529C
Q1, 2	: 2SD2061
Q3	: 2SA999(E, F)
Q4	: 2SC2785(E, F) or 2SC1740S(Q, R)
Q5	: 2SC3944A
Q201, 202304	: 2SC1740S(Q, R) or 2SC3311A(Q, R) or 2SC2458(Y, GR) or 2SC2785(F, E)
Q203, 303	: 2SA933S(Q, R) or 2SA1309A(Q, R) or 2SA1048(Y, GR) or 2SA1175(F, E)
Q301, 302	: 2SD1302
D16~18, 50, 51	: 1SS133 or HSS104
D19, 20, 35, 36	: 1SR139-100 or S5566B
D37	: RBV-402LFA
D44	: RD3.9ES(B2) or HZS3.9N(B2)
D45	: RD6.2ES(B2) or HZS6.2N(B2)
D46	: RD7.5JS(B2) or HZS7.5S(B2)
D47	: RD30ES(B) or HZS30N(B)
D52	: RD6.8ES(B2) or HZS6.8S(B2)
D204~214 216~222	: HSS104 or 1SS133
D301	: RD3.3ES(B2) or HZS3.3N(B2)
D302	: RD5.1ES(B2) or HZS5.1N(B2)

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parts list). ⚠ Indicates safety critical components. To re
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Die angegebenen Gleichspannungswerte wurden mit
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ken die Meßwerte aufgrund von Unterschieden zwische
zelnen Instrumenten oder Geräten u. U. geringfügig.

SIGNAL LINE
GND LINE
+B LINE
−B LINE

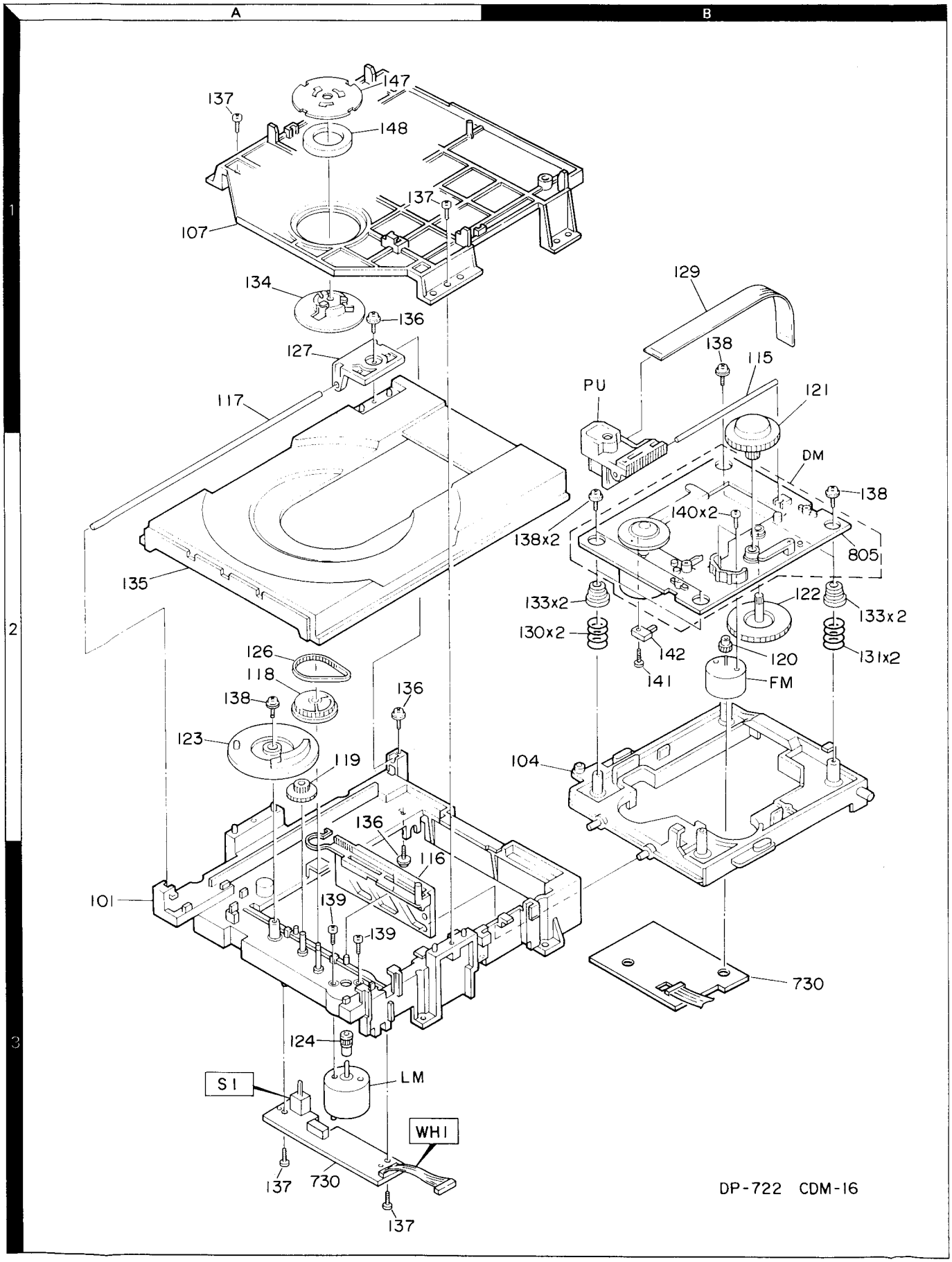
X-A3 (4/4)

Y08-4550-10

UD-300

KENWOOD

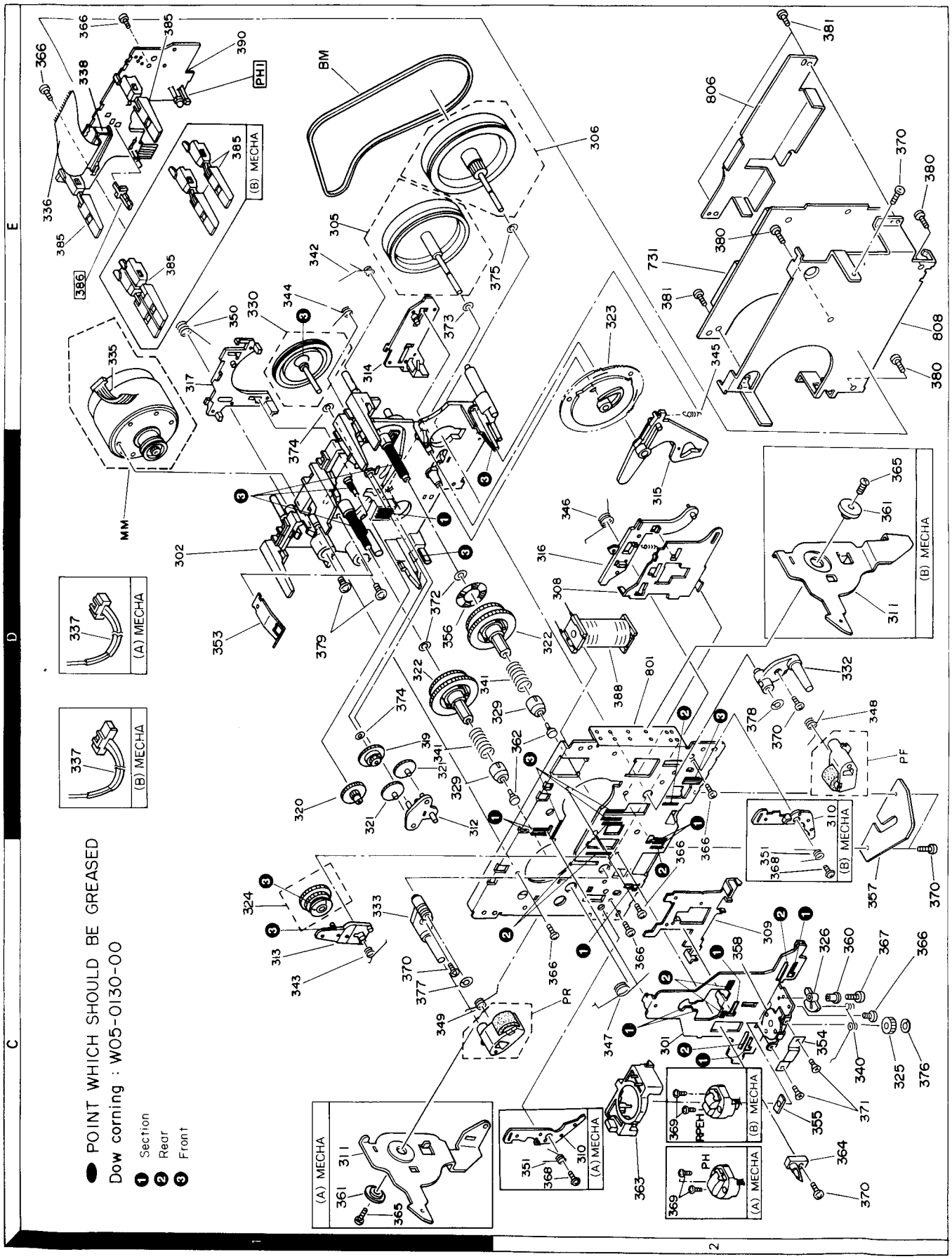
EXPLODED VIEW (MECHANISM)



Parts with the exploded numbers larger than 700 are not supplied.

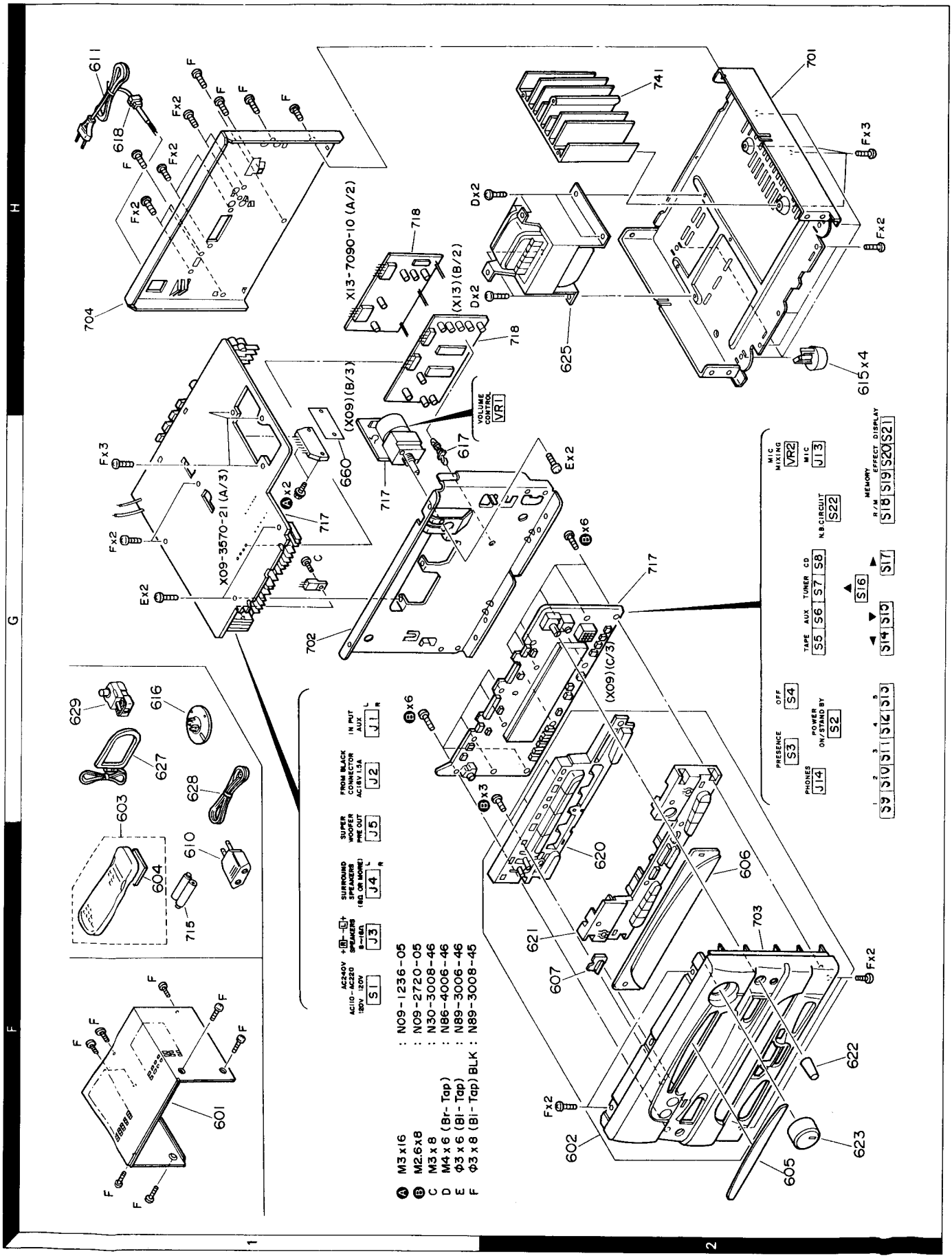
UD-300

EXPLODED VIEW (MECHANISM UNIT)



Parts with the exploded numbers larger than 700 are not supplied.

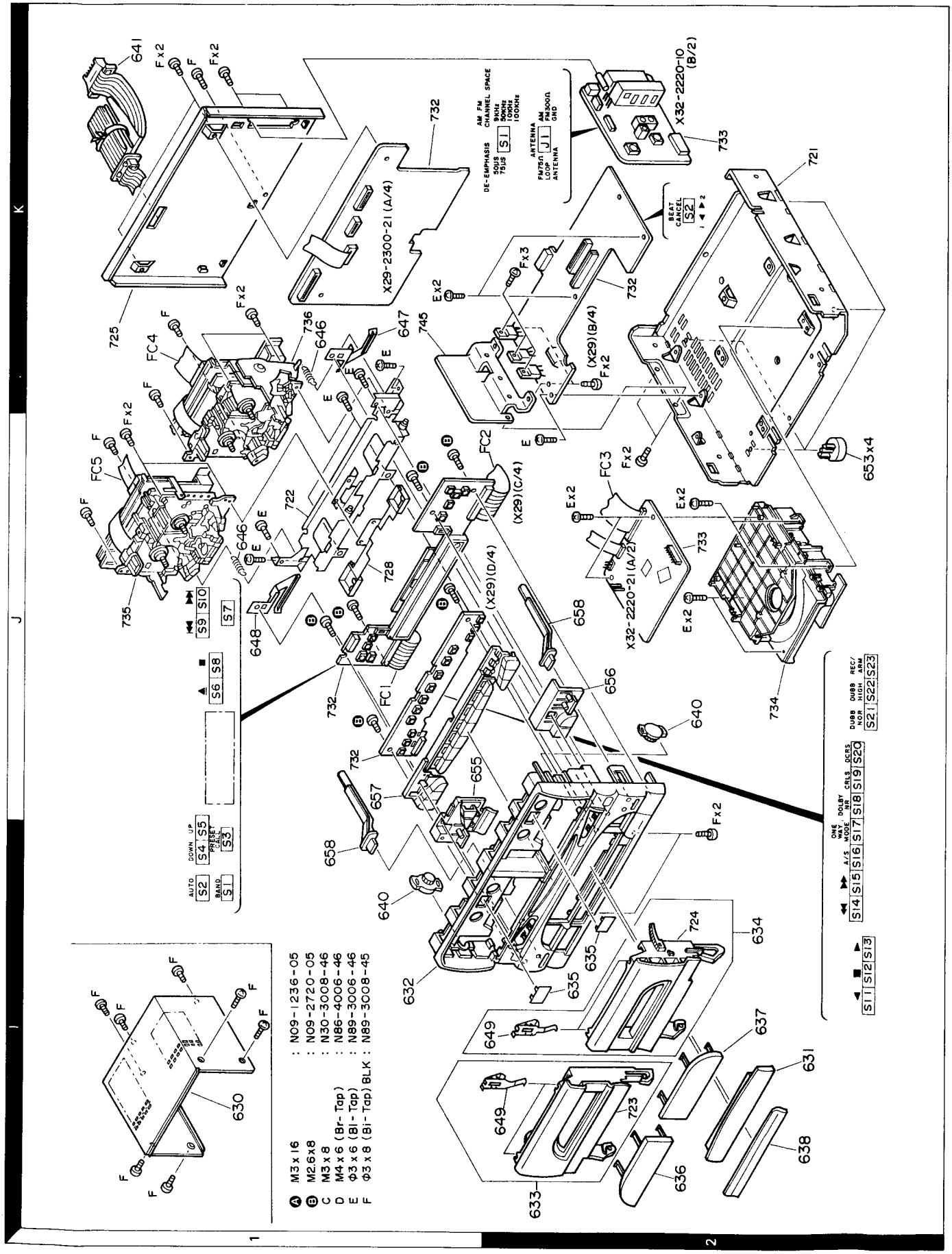
EXPLODED VIEW (UNIT)



Parts with the exploded numbers larger than 700 are not supplied.

UD-300

EXPLODED VIEW



Parts with the exploded numbers larger than 700 are not supplied.

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NO.1

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
			A-A3			
601	1F	*	A01-2922-01	METALLIC CABINET		
602	2F	*	A60-0180-12	PANEL ASSY	KPTE	
602	2F	*	A60-0181-12	PANEL ASSY	MX	
603	1G	*	X94-1010-11	REMOTE CONTROL ASSY UNIT		
604	1F		A09-0126-03	BATTERY COVER		
605	2F	*	B03-2764-04	DRESSING PLATE		
606	2F	*	B10-1906-03	FRONT GLASS		
607	2F	*	B12-0190-04	INDICATOR		
-			B46-0092-13	WARRANTY CARD	K	
-			B46-0096-33	WARRANTY CARD	X	
-			B46-0121-13	WARRANTY CARD	P	
-			B46-0122-23	WARRANTY CARD	E	
-			B46-0143-13	WARRANTY CARD	T	
-		*	B60-0751-00	INSTRUCTION MANUAL (ENGLISH)		
-		*	B60-0752-00	INSTRUCTION MANUAL (FRENCH)	PE	
-		*	B60-0753-00	INSTRUCTION MANUAL (GERMAN)	E	
-		*	B60-0754-00	INSTRUCTION MANUAL (DUTCH)	E	
-		*	B60-0755-00	INSTRUCTION MANUAL (ITALIAN)	E	
-		*	B60-0756-00	INSTRUCTION MANUAL (CHINESE)	M	
-		*	B60-0757-00	INSTRUCTION MANUAL (SPANISH)	ME	
-		*	B60-0758-00	INSTRUCTION MANUAL (ARABIC)	M	
⚠ 610	1F		E03-0115-05	AC PLUG ADAPTER	M	
⚠ 611	1H	*	E30-2274-15	AC POWER CORD	KP	
⚠ 611	1H	*	E30-2275-15	AC POWER CORD	X	
⚠ 611	1H	*	E30-2276-15	AC POWER CORD	T	
⚠ 611	1H	*	E30-2277-15	AC POWER CORD	ME	
		*	H50-0241-14	ITEM CARTON CASE	K	
		*	H50-0242-04	ITEM CARTON CASE	TE	
		*	H50-0313-14	ITEM CARTON CASE	PMX	
-		*	H10-5263-01	POLYSTYRENE FOAMED FIXTURE	KPMX	
-		*	H10-5264-01	POLYSTYRENE FOAMED FIXTURE	KPMX	
-		*	H10-5294-12	POLYSTYRENE FOAMED FIXTURE (L)	TE	
-		*	H10-5295-12	POLYSTYRENE FOAMED FIXTURE (R)	TE	
-		*	H13-0086-04	CARTON BOARD	KPMX	
-			H25-0232-04	PROTECTION BAG (235X350X0.03)	E	
-			H25-0632-24	PROTECTION BAG	KPMX	
-			H25-0651-04	PROTECTION BAG (0232 PRINTED)	T	
-		*	H25-0671-04	PROTECTION BAG		
615	2H		J02-0370-05	FOOT		
616	1G		J19-2815-04	ANTENNA HOLDER		
617	1G		J19-3329-05	UNIT HOLDER		
⚠ 618	1H		J42-0083-05	POWER CORD BUSHING		
620	2F	*	K29-4351-02	KNOB INPUT SELECTOR		
621	2F	*	K29-4352-02	KNOB GE CONTROL		
622	2F	*	K29-4357-04	KNOB MIC MIXING	MX	
623	2F	*	K29-4358-04	KNOB VOLUME CONTROL		
⚠ 625	2H	*	L07-0465-15	POWER TRANSFORMER	KP	
⚠ 625	2H	*	L07-0466-15	POWER TRANSFORMER	M	
⚠ 625	2H	*	L07-0467-15	POWER TRANSFORMER	T	
⚠ 625	2H	*	L07-0468-15	POWER TRANSFORMER	E	
625	2H	*	L07-0469-15	POWER TRANSFORMER	X	

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NO.2

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
B	1G,2G		N09-2720-05	TAPTITE SCREW (2.6X8)		
D	1H		N86-4006-46	BINDING HEAD TAPTITE SCREW		
E	1G,2G		N89-3006-46	BINDING HEAD TAPTITE SCREW		
F	1F,1H		N89-3008-45	BINDING HEAD TAPTITE SCREW		
627	1G		T90-0174-05	LOOP ANTENNA		
628	1G		T90-0175-05	T TYPE ANTENNA		
629	1G		T90-0185-05	ANTENNA ADAPTOR	TE	
			X-A3			
630	1I	*	A01-2922-01	METALLIC CABINET		
631	2I	*	A29-0310-03	CD TRAY PANEL		
632	2I	*	A60-0190-11	PANEL	KPMX	
632	2I	*	A60-0192-11	PANEL	TE	
633	2I	*	A53-1336-23	CASSETTE HOLDER ASSY	KPMX	A
633	2I	*	A53-1340-23	CASSETTE HOLDER ASSY	TE	A
634	2I	*	A53-1338-23	CASSETTE HOLDER ASSY		B
635	2I		B07-1720-04	ESCUTCHEON		
636	2I	*	B10-1914-03	FRONT GLASS CASSETTE HOLDER		A
637	2I	*	B10-1915-03	FRONT GLASS CASSETTE HOLDER		B
638	2I	*	B10-1916-03	FRONT GLASS TUNER DISPLAY		
-			B46-0122-23	WARRANTY CARD	E	
-			B46-0143-13	WARRANTY CARD	T	
640	1I,2J		D39-0198-05	DAMPER		
641	1K	*	E30-2686-05	CORD WITH CONNECTOR POWER CORD		
FC1 ,2	1J,2J	*	E35-0300-05	FLAT CABLE X29CN2-CN3,CN4-CN5		
FC3	2J	*	E35-0301-05	FLAT CABLE X29(CN1)-X92(CN5)		
FC4	1K	*	E35-0302-05	FLAT CABLE X29(CN8)-X92(CN3)		
FC5	1J	*	E35-0305-05	FLAT CABLE X29(CN7)-X92(CN6)		
646	1J,1K	*	G01-3461-14	EXTENSION SPRING		
647	1K	*	G02-0998-14	FLAT SPRING		B
648	1J	*	G02-0999-14	FLAT SPRING		A
649	2I	*	G02-1001-24	FLAT SPRING		
		*	H50-0241-14	ITEM CARTON CASE	K	
		*	H50-0301-04	ITEM CARTON CASE	TE	
		*	H50-0313-14	ITEM CARTON CASE	PMX	
-		*	H10-5263-01	POLYSTYRENE FOAMED FIXTURE	KPMX	
-		*	H10-5264-01	POLYSTYRENE FOAMED FIXTURE	KPMX	
-		*	H10-5270-12	POLYSTYRENE FOAMED FIXTURE (L)	TE	
-		*	H10-5271-12	POLYSTYRENE FOAMED FIXTURE (R)	TE	
-		*	H20-0574-04	PROTECTION COVER	M	
-			H25-0232-04	PROTECTION BAG (235X350X0.03)	E	
-			H25-0651-04	PROTECTION BAG (0232 PRINTED)	T	
-		*	H25-0672-04	PROTECTION BAG	KPXTE	
653	2J		J02-0370-05	FOOT		
655	1J	*	K29-4360-13	KNOB DOWN,UP,TUNING		
656	2J	*	K29-4361-03	KNOB STOP,PAUSE		
657	1J	*	K29-4362-13	KNOB CASSETTE CONTROL		
658	1I,2J	*	K29-4363-14	KNOB EJECT		
B	1J		N09-2720-05	TAPTITE SCREW (2.6X8)		
E	1I,1J		N89-3006-46	BINDING HEAD TAPTITE SCREW		
F	1J,1K		N89-3008-45	BINDING HEAD TAPTITE SCREW		

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NO.3

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
LS-A3						
-		*	A21-2274-03	FRONT PANEL ASSY		
-		*	E30-5120-08	OUTSIDE CONNECTING WIRE		
		*	H51-0137-08	CARTON CASE	KTE	
		*	H51-0138-08	CARTON CASE	PMX	
-		*	H10-6011-08	POLYSTYRENE FOAMED FIXTURE		
-		*	H21-1071-08	PROTECTION SHEET		
SP1		*	T10-0546-05	LOUDSPEAKER(WOOFER)		
SP2		*	T03-0398-05	LOUDSPEAKER(TWEETER)		
AUDIO UNIT(X09-3570-10:K,P,0-21:M,0-71:X,2-71:T,E)						
D33			B30-1291-05	LED(LN21CPSLX(V)-(TA4))		
C1 -6			CC45FSL1H221J	CERAMIC 220PF J	TE	
C1 ,2			CC45FSL1H221J	CERAMIC 220PF J	KPMX	
C5 ,6			CC45FSL1H221J	CERAMIC 220PF J	KPMX	
C7 ,8			CE04LW1V100M	ELECTRO 10UF 35WV		
C9 ,10			CF92FV1H683J	MF 0.068UF J		
C11 ,12			CF92FV1H223J	MF 0.022UF J		
C13 ,14			CF92FV1H243J	MF 0.024UF J		
C15 -18			CF92FV1H104J	MF 0.10UF J		
C19 ,20			CE04LW1A221M	ELECTRO 220UF 10WV		
C21 -24			CF92FV1H104J	MF 0.10UF J		
C25 ,26			CQ92FM1H472J	MYLAR 4700PF J		
C27 ,28			CE04LW1V100M	ELECTRO 10UF 35WV		
C29 ,30			CK45FB1H102K	CERAMIC 1000PF K		
C31 ,32			CC45FSL1H181J	CERAMIC 180PF J		
C33 ,34			CC45FSL1H270J	CERAMIC 27PF J		
C100,101			CK45FF1H103Z	CERAMIC 0.010UF Z		
C102,103			CC45FSL1H221J	CERAMIC 220PF J		
C104,105			CE04LW1V4R7M	ELECTRO 4.7UF 35WV		
C106,107			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C108			CK45FF1H103Z	CERAMIC 0.010UF Z		
C109			CK45FB1H471K	CERAMIC 470PF K		
C110			CE04HW1H3R3M	NP-ELEC 3.3UF 50WV		
C111			CE04LW1H100M	ELECTRO 10UF 50WV		
C112,113			CE04LW1H101M	ELECTRO 100UF 50WV		
C114			CE04LW1H100M	ELECTRO 10UF 50WV		
C115			CE04LW0J331M	ELECTRO 330UF 6.3WV		
C116			CE04LW1V100M	ELECTRO 10UF 35WV		
C117,118			CE04LW1A221M	ELECTRO 220UF 10WV		
C119			CE04LW1V100M	ELECTRO 10UF 35WV		
C120,121			CE04LW1V102M	ELECTRO 1000UF 35WV		
C122,123			CK45FF1H103Z	CERAMIC 0.010UF Z		
C124,125			CE04LW1A101M	ELECTRO 100UF 10WV		
C126,127			CQ92FM1H103J	MYLAR 0.010UF J		
C128			CK45FB1H471K	CERAMIC 470PF K		
C129,130			CE04LW1E471M	ELECTRO 470UF 25WV		
C131,132			CK45FF1H103Z	CERAMIC 0.010UF Z		
C133,134			CE04LW1V100M	ELECTRO 10UF 35WV		
C135,136			CE04LW1H470M	ELECTRO 47UF 50WV		
C137			CE04LW1V101M	ELECTRO 100UF 35WV		
C138			CE04EW1C471M	ELECTRO 470UF 16WV		

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NO.4

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
C139,140			CK45FF1H103Z	CERAMIC 0.010UF Z		
C141,142		*	C90-1961-05	ELECTRO 3300UF 45WV		
C143			CK45FB1H102K	CERAMIC 1000PF K	MX	
C144			C90-3231-05	ELECTRO 3.3UF 25WV		
C145,146			CK45FF1H103Z	CERAMIC 0.010UF Z		
C147			C90-3231-05	ELECTRO 3.3UF 25WV		
C148			CQ92FM1H102J	MYLAR 1000PF J		
C149			CK45FF1H103Z	CERAMIC 0.010UF Z		
C150			C91-0769-05	CERAMIC 0.01UF K		
C151,152		*	C90-3213-05	ELECTRO 68UF 6.3WV		
C154			C91-0769-05	CERAMIC 0.01UF K		
C155			C91-0753-05	CHIP C 470PF K	MX	
C156			C91-0757-05	CERAMIC 1000PF K	MX	
C157			C90-3248-05	ELECTRO 0.1UF 50WV	MX	
C158			C91-0749-05	CERAMIC 220PF K	MX	
C159			C91-0757-05	CERAMIC 1000PF K	MX	
C160			C90-3224-05	ELECTRO 4.7UF 16WV	MX	
C161		*	C90-3240-05	ELECTRO 2.2UF 35WV	MX	
C162,163			C90-3219-05	ELECTRO 33UF 10WV	MX	
C164,165			C91-0757-05	CERAMIC 1000PF K		
C166,167			C91-0769-05	CERAMIC 0.01UF K		
C168		*	C90-3240-05	ELECTRO 2.2UF 35WV		
C169			CK45FF1H223Z	CERAMIC 0.022UF Z		
C170			CE04LW1V100M	ELECTRO 10UF 35WV		
C171,172			CK45FF1H103Z	CERAMIC 0.010UF Z		
J1		*	E63-0040-05	PHONO JACK AUX		
J2			E08-1509-05	RECTANGULAR RECEPTACLE BLACK		
J3		*	E70-0013-05	LOCK TERMINAL BOARD SPEAKER		
J4		*	E63-0041-05	PHONO JACK SURROUND SPEAKER	MX	
J5			E13-0138-05	PHONO JACK SUPER WOOFER		
J13 ,14		*	E11-0234-05	PHONE JACK MCI,HEAD PHONE	MX	
J14		*	E11-0234-05	PHONE JACK HEAD PHONE	KPTE	
660	1G	*	F20-1352-05	INSULATING SHEET		
⚠ F1			F53-0022-05	FUSE	MXTE	
⚠ F1			F53-0036-05	FUSE	KP	
⚠ F2 ,3			F53-0016-05	FUSE	MXTE	
⚠ F2 ,3			F53-0030-05	FUSE	KP	
⚠ F4			F53-0022-05	FUSE	MXTE	
⚠ F4			F53-0036-05	FUSE	KP	
⚠ F5			F53-0020-05	FUSE	MXTE	
⚠ F5			F53-0034-05	FUSE	KP	
⚠ F6			F05-1623-05	FUSE (SEMKO) (250V T1.6A)	XTE	
⚠ F6			F06-3027-05	FUSE (UL) (250V 3A)	KP	
⚠ F6 ,7			F05-1623-05	FUSE (SEMKO) (250V T1.6A)	M	
CN9 -12			J13-0075-05	FUSE CLIP	M	
CN9 ,10			J13-0075-05	FUSE CLIP	KPXTE	
J7 ,8			J21-5159-04	MOUNTING HARDWARE		
L1 ,2			L39-0085-05	PHASE-COMPENSATION COIL		
L3 ,4			L40-1011-17	SMALL FIXED INDUCTOR(100UH,K)		
X1			L78-0244-05	RESONATOR 4MHz		
X2			L78-0267-05	RESONATOR 4.19MHz		
A	1G		N09-1236-05	TAPPING SCREW (3X16)		
C	1G		N30-3008-46	PAN HEAD MACHIN SCREW		

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NO.5

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
F	1G		N89-3008-45	BINDING HEAD TAPTITE SCREW		
CP1			R90-0854-05	MULTI-COMP 4.7KX3 J 1/6W		
CP2			R90-0487-05	MULTI-COMP 47KX4 J 1/6W		
CP3			R90-0851-05	MULTI-COMP 100KX11		
CP4			R90-0487-05	MULTI-COMP 47KX4 J 1/6W		
R43 ,44			RD14NB2E4R7J	RD 4.7 J 1/4W		
R45 ,46			RS14KB3D4R7J	FL-PROOF RS 4.7 J 2W		
R47 ,48			RS14KB3D561J	FL-PROOF RS 560 J 2W		
R113,114			RD14NB2E101J	RD 100 J 1/4W		
R145			RD14NB2E220J	RD 22 J 1/4W		
R196			R92-0173-05	RC 2.2M M 1/2W	KP	
VR1			R29-5064-05	MOTOR VR 100KB X2 MAIN VOLUME		
VR2		*	R10-5054-05	POTENTIOMETER 100K MIC MIXING	MX	
K1			S76-0008-05	MAGNETIC RELAY		
⚠ S1			S31-2322-05	SLIDE SWITCH VOLTAGE SELECTOR	M	
S2 -22			S40-1064-05	PUSH SWITCH KEY BOARD		
D1 -11			HSS104	DIODE		
D1 -11			1SS133	DIODE		
D12			HZS7.5S(B)	ZENER DIODE		
D12			RD7.5JS(B)	ZENER DIODE		
D13 ,14			HZS8.2N(B2)	ZENER DIODE		
D13 ,14			RD8.2ES(B2)	ZENER DIODE		
D15 -18			1SR139-100	DIODE		
D19			HSS104	DIODE		
D19			1SS133	DIODE		
D20 -23			1SR139-100	DIODE		
D24			HZS7.5S(B)	ZENER DIODE		
D24			RD7.5JS(B)	ZENER DIODE		
D25			HZS27N(B2)	ZENER DIODE		
D25		*	RD27ES(B)	ZENER DIODE		
D26			1SR139-100	DIODE		
D28			HSS104	DIODE		
D28			1SS133	DIODE		
D29			D5SBA20F03	DIODE		
D30			HZS4.7N(B2)	ZENER DIODE		
D30			RD4.7ES(B2)	ZENER DIODE		
D31 ,32			HSS104	DIODE		
D31 ,32			1SS133	DIODE		
D34 -38			HSS104	DIODE		
D34 -38			1SS133	DIODE		
D39 ,40			1SR139-100	DIODE		
D41			HZS4.7N(B2)	ZENER DIODE		
D41			RD4.7ES(B2)	ZENER DIODE		
D42 -44			HSS104	DIODE		
D42 -44			1SS133	DIODE		
D45			MA177	DIODE		
D46			1SR139-100	DIODE		
ED1		*	FIP13CW19Y	FLUORESCENT INDICATOR TUBE		
IC1			TC4052BP	IC(4CH MPX/DE-MPX)		
IC2		*	STK4140MK2Z	IC(AF POWER AMP)	KP	
IC2		*	STK4140MK5Z	IC(AF POWER AMP)	TE	
IC2		*	STK4150MK2Z	IC(AF POWER AMP)	MX	
IC3			TA8409S	IC(MOTOR CONTROL)		

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IC4			NJM4558D	IC(OP AMP X2)		
IC5			UPC7805HF	IC(VOLTAGE REGULATOR/ +5V)		
IC6			M50940-345SP	IC(MICROPROCESSOR)		
IC7			XR-1091ECP	IC(EQUALIZER FILTER)		
IC8			UPA80C	IC(7CH TRANSISTOR ARRAY)		
IC9			LB1294	IC(6CH DARLINGTON DRIVER)		
IC10		*	CXP50112-375Q	IC(MICROPROCESSOR)		
IC10		*	CXP50112-388Q	IC(MICROPROCESSOR)		
IC11		*	PST620DDB	IC(SYSTEM RESET)		
IC12,13			NJM4565D-D	IC(OP AMP X2)	MX	
IC13			NJM4565D-D	IC(OP AMP X2)	KPTE	
Q1 ,2			2SC1740S(Q,R)	TRANSISTOR		
Q1 ,2			2SC2785(F,E)	TRANSISTOR		
Q3 ,4			2SC2878(B)	TRANSISTOR		
Q5 ,6			2SC2878(B)	TRANSISTOR		
Q50			2SC1740S(Q,R)	TRANSISTOR		
Q50			2SC2785(F,E)	TRANSISTOR		
Q51			DTC124ES	DIGITAL TRANSISTOR		
Q51			RN1203	TRANSISTOR		
Q52			2SA1175(F,E)	TRANSISTOR		
Q52			2SA933S(Q,R)	TRANSISTOR		
Q53			2SC1845(F,E)	TRANSISTOR		
Q54			DTA124ES	DIGITAL TRANSISTOR		
Q54			RN2203	TRANSISTOR		
Q55			2SD1266(Q,P)	TRANSISTOR		
Q56			2SB941(Q,P)	TRANSISTOR		
Q57			2SA1175(F,E)	TRANSISTOR		
Q57			2SA933S(Q,R)	TRANSISTOR		
Q58			2SB772(Q,P)	TRANSISTOR		
Q59			2SC2003(L,K)	TRANSISTOR		
Q60			DTC144TFF	DIGITAL TRANSISTOR		
Q61			2SC2878(B)	TRANSISTOR		
Q62			2SA992(F,E)	TRANSISTOR		
A1			W02-1046-05	ELECTRIC CIRCUIT MODULE		
ACCESSORY UNIT(X13-7090-10)						
C1 ,2			CE04LW1V100M	ELECTRO 10UF 35WV		
C3			CC45FSL1H390J	CERAMIC 39PF J		
C4			CC45FSL1H101J	CERAMIC 100PF J		
C5 ,6			CF92FV1H103J	MF 0.010UF J		
C7 ,8			CF92FV1H222J	MF 2200PF J		
C9 ,10			CE04LW1V100M	ELECTRO 10UF 35WV		
C11 ,12			CF92FV1H154J	MF 0.15UF J		
C13 ,14			CF92FV1H474J	MF 0.47UF J		
C17 ,18			CF92FV1H153J	MF 0.015UF J		
C19			CF92FV1H333J	MF 0.033UF J		
C20			CF92FV1H474J	MF 0.47UF J		
C21 ,22			CE04LW1V4R7M	ELECTRO 4.7UF 35WV		
C24 ,25			CE04LW1A101M	ELECTRO 100UF 10WV		
C26 ,27			CK45FF1H103Z	CERAMIC 0.010UF Z		
C31 ,32			CE04LW1V100M	ELECTRO 10UF 35WV		
C33 ,34			CE04LW1H2R2M	ELECTRO 2.2UF 50WV		
C35 ,36			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C37 ,38			CK45FB1H471K	CERAMIC 470PF K		
C39 ,40			CC45FSL1H221J	CERAMIC 220PF J		

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NO.7

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
C41 ,42			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C43 ,44			CF92FV1H224J	MF 0.22UF J		
C45 ,46			CE04LW1HR47M	ELECTRO 0.47UF 50WV		
C47 ,48			CF92FV1H913J	MF 0.091UF J		
C49 ,50			CF92FV1H184J	MF 0.18UF J		
C51 ,52			CF92FV1H333J	MF 0.033UF J		
C53 ,54			CF92FV1H683J	MF 0.068UF J		
C55 ,56			CF92FV1H133J	MF 0.013UF J		
C57 ,58			CF92FV1H303J	MF 0.030UF J		
C59 ,60			CF92FV1H562J	MF 5600PF J		
C61 ,62			CF92FV1H123J	MF 0.012UF J		
C63 ,64			CF92FV1H222J	MF 2200PF J		
C65 ,66			CF92FV1H472J	MF 4700PF J		
C67 ,68			CK45FB1H821K	CERAMIC 820PF K		
C69 ,70			CE04LW1H2R2M	ELECTRO 2.2UF 50WV		
C71 ,72			CE04LW1V100M	ELECTRO 10UF 35WV		
C73 ,74			CE04LW1A101M	ELECTRO 100UF 10WV		
C75 ,76			CK45FB1H471K	CERAMIC 470PF K		
R49 ,50			RD14NB2E470J	RD 47 J 1/4W		
R77 ,78			RD14NB2E470J	RD 47 J 1/4W		
IC1			TC9215P	IC(ANALOG SWITCH X 6)		
IC2			UPC4574C	IC(OP AMP X4)		
IC3		*	TDA3810	IC(PSEUDO STEREO CIRCUIT)		
IC4			NJM4565D-D	IC(OP AMP X2)		
IC5 ,6			M5229P	IC(7CH GRAPHIC EQUALIZER)		
IC7			LC7522	IC(7CH GRAPHIC EQUALIZER)		
Q1 ,2			DTA124ES	DIGITAL TRANSISTOR		
Q1 ,2			RN2203	TRANSISTOR		
NETWORK ASSY(X21-5990-10)						
C1			C90-1098-05	NP-ELEC 2.7UF 100WV		
J1		*	E29-0909-08	INPUT TERMINAL		
CD ELECTRIC UNIT(X25-4570-31)						
S1			S33-2062-05	LEVER SWITCH LOADING		
RECORD/PLAYBACK AMPLIFIER UNIT(X28-2450-10)						
C1 ,2			CK45FB1H561K	CERAMIC 560PF K		
C5 ,6			CE04LW1H2R2M	ELECTRO 2.2UF 50WV		
C7 ,8			CK45FB1H391K	CERAMIC 390PF K		
C9 ,10			CF92FV1H223J	MF 0.022UF J		
C11 ,12			CE04LW1C470M	ELECTRO 47UF 16WV		
C13			CE04LW1C101M	ELECTRO 100UF 16WV		
C14			CQ93HP2A822J	MYLAR 8200PF J		
C15 -18			CC45FSL1H221J	CERAMIC 220PF J		
C19			CK45FB2H471K	CERAMIC 470PF K		
C20			CE04LW1V4R7M	ELECTRO 4.7UF 35WV		
C21 ,22			CK45FB1H332K	CERAMIC 3300PF K		
C23			CK45FF1H103Z	CERAMIC 0.010UF Z		
C24			CK45FB1H102K	CERAMIC 1000PF K		
C25			CK45FF1H223Z	CERAMIC 0.022UF Z		
C51 ,52			CC45FSL1H221J	CERAMIC 220PF J		
C53 ,54			CK45FB1H391K	CERAMIC 390PF K		
C55 ,56			CE04LW1H2R2M	ELECTRO 2.2UF 50WV		
C57 ,58			CK45FB1H391K	CERAMIC 390PF K		

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NO.8

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
C59 ,60			CE04LW1C470M	ELECTRO 47UF 16WV		
C61 ,62			CF92FV1H153J	MF 0.015UF J		
C63			CE04LW1C101M	ELECTRO 100UF 16WV		
C64			CK45FB1H102K	CERAMIC 1000PF K		
L1 ,2			L40-1035-29	SMALL FIXED INDUCTOR(10MH, J)		
L3		*	L32-0542-05	BIAS OSCILATING COIL		
VR1			R12-1617-05	TRIMMING POT.(2.2K) HIGH SPEED		B
VR2			R12-1616-05	TRIMMING POT.(1K) NORMAL SPEED		B
VR3 ,4			R12-0605-05	TRIMMING POT.(220) PLAY LEVEL		B
VR5 ,6			R12-5072-05	TRIMMING POT.(100K) BIAS		
VR7			R12-1617-05	TRIMMING POT.(2.2K) HOGH SPEED		A
VR8			R12-1616-05	TRIMMING POT.(1K) NORMAL SPEED		A
VR9 ,10			R12-0605-05	TRIMMING POT.(220) PLAY LEVEL		A
K1			S51-2089-05	MAGNETIC RELAY		
D1 -4			HSS104	DIODE		
D1 -4			1SS133	DIODE		
D6 -9			HSS104	DIODE		
D6 -9			1SS133	DIODE		
D10			HZS11N(B2)	ZENER DIODE		
D10			RD11ES(B2)	ZENER DIODE		
D51 -55			HSS104	DIODE		
D51 -55			1SS133	DIODE		
IC1 ,2			TA8125S	IC(2CH PRE AMP)		
Q1 ,2			2SC3246	TRANSISTOR		
Q3 ,4			2SC1845(F,E)	TRANSISTOR		
Q5			2SA992(F,E)	TRANSISTOR		
Q6			2SA1175(F,E)	TRANSISTOR		
Q6			2SA933S(Q,R)	TRANSISTOR		
Q7 -12			2SC1740S(Q,R)	TRANSISTOR		
Q7 -12			2SC2785(F,E)	TRANSISTOR		
Q13 ,14			2SC3246	TRANSISTOR		
Q15			2SA1175(F,E)	TRANSISTOR		
Q15			2SA933S(Q,R)	TRANSISTOR		
Q16			2SC1740S(Q,R)	TRANSISTOR		
Q16			2SC2785(F,E)	TRANSISTOR		
CONTROL UNIT(X29-2300-10:K,P,0-21:M,0-71:X,2-71:T,E)						
C1 ,2			CE04LW1HR47M	ELECTRO 0.47UF 50WV		
C3 ,4			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C5 -8			CE04LW1HR47M	ELECTRO 0.47UF 50WV		
C9 ,10			CE04LW1H2R2M	ELECTRO 2.2UF 50WV		
C11 ,12			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C13 -16			CQ92FM1H222J	MYLAR 2200PF J		
C17 ,18			CK45FF1H223Z	CERAMIC 0.022UF Z		
C19 ,20			CQ92FM1H222J	MYLAR 2200PF J		
C21 -24			CE04LW1H0R1M	ELECTRO 0.1UF 50WV		
C25 ,26			CE04LW1V100M	ELECTRO 10UF 35WV		
C27 ,28			CE04LW1H2R2M	ELECTRO 2.2UF 50WV		
C29 ,30			CE04LW1HR47M	ELECTRO 0.47UF 50WV		
C31 ,32			CE04LW1H2R2M	ELECTRO 2.2UF 50WV		
C33 ,34			CK45FB1H821K	CERAMIC 820PF K		
C37 -40			CE04LW1V100M	ELECTRO 10UF 35WV		
C41 ,42			CF92FV1H333J	MF 0.033UF J		

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C43 ,44			CK45FF1H333Z	CERAMIC	0.033UF Z		
C45 ,46			CF92FV1H333J	MF	0.033UF J		
C47 ,48			CK45FF1H333Z	CERAMIC	0.033UF Z		
C51			CE04LW1V100M	ELECTRO	10UF 35WV		
C52			CE04LW1H2R2M	ELECTRO	2.2UF 50WV		
C53			CE04LW1H101M	ELECTRO	100UF 50WV		
C54			CE04LW1H470M	ELECTRO	47UF 50WV		
C55			CE04LW1H101M	ELECTRO	100UF 50WV		
C56			CE04LW1V100M	ELECTRO	10UF 35WV		
C57			CE04LW1H100M	ELECTRO	10UF 50WV		
C58			CE04LW1E221M	ELECTRO	220UF 25WV		
C59 ,60			CE04LW1V101M	ELECTRO	100UF 35WV		
C61			CE04LW1E102M	ELECTRO	1000UF 25WV		
C63			CE04LW1V101M	ELECTRO	100UF 35WV		
C64			CC45FSL1H101J	CERAMIC	100PF J		
C66			CE04LW1H471M	ELECTRO	470UF 50WV		
C67			CE04LW1E102M	ELECTRO	1000UF 25WV	KPXTE	
C67			CE04LW1E471M	ELECTRO	470UF 25WV	M	
C68			CE04LW1V471M	ELECTRO	470UF 35WV		
C69			CE04LW1V100M	ELECTRO	10UF 35WV		
C70			CE04LW1A101M	ELECTRO	100UF 10WV		
C72			CE04LW1V101M	ELECTRO	100UF 35WV		
C73 ,74			CF92FV1H104J	MF	0.10UF J		
C75			CE04LW1V101M	ELECTRO	100UF 35WV		
C76			CK45FF1H103Z	CERAMIC	0.010UF Z		
C77			CK45FF1H223Z	CERAMIC	0.022UF Z		
C78			CE04LW1A101M	ELECTRO	100UF 10WV		
C79 ,80			CK45FB1H102K	CERAMIC	1000PF K		
C81			CK45FB1H222K	CERAMIC	2200PF K		
C82			CE04LW1H331M	ELECTRO	330UF 50WV		
C83			CK45FF1H103Z	CERAMIC	0.010UF Z		
C84			CE04LW1H010M	ELECTRO	1.0UF 50WV		
C85			CC45FSL1H101J	CERAMIC	100PF J		
C86 -88			CE04LW1V100M	ELECTRO	10UF 35WV		
C89			CE04LW1C330M	ELECTRO	33UF 16WV		
C90			CE04LW1A101M	ELECTRO	100UF 10WV		
C91 -94			CK45FB1H222K	CERAMIC	2200PF K		
C95			CK45FF1H103Z	CERAMIC	0.010UF Z		
C96 ,97			CK45FF1H223Z	CERAMIC	0.022UF Z		
C98			CE04LW1V100M	ELECTRO	10UF 35WV		
C99 -101			C91-0753-05	CHIP C	470PF K		
C102			CE04LW1H220M	ELECTRO	22UF 50WV		
C202			CE04LW1H2R2M	ELECTRO	2.2UF 50WV		
C203			C90-1827-05	BACKUP	0.047F 5.5WV		
C204			CE04LW0J221M	ELECTRO	220UF 6.3WV		
C205			CE04LW1H010M	ELECTRO	1.0UF 50WV		
C206			CK45FF1H103Z	CERAMIC	0.010UF Z		
C207			CE04LW1H010M	ELECTRO	1.0UF 50WV		
C208			CC45FCH1H270J	CERAMIC	27PF J		
C209			CC45FCH1H330J	CERAMIC	33PF J		
C301			CE04LW1H010M	ELECTRO	1.0UF 50WV		
C302			CE04LW1V100M	ELECTRO	10UF 35WV		
L1 ,2			L79-0720-05	LC FILTER			
L3 ,4			L40-1011-17	SMALL FIXED INDUCTOR			

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X1		*	L78-0294-05	RESONATOR 10MHz		
X201			L77-1176-05	CRYSTAL RESONATOR 4.194304MHz		
F	2K		N89-3008-45	BINDING HEAD TAPTITE SCREW		
CP1			R90-0818-05	MULTI-COMP 47KX5 J 1/6W		
CP201			R90-0803-05	MULTI-COMP 100KX7 J 1/4W		
R117-120			RS14KB3D151J	FL-PROOF RS 150 J 2W		
R126			RS14KB3D821J	FL-PROOF RS 820 J 2W		
R306			RS14KB3D221J	FL-PROOF RS 220 J 2W		
S1 -23			S40-1064-05	PUSH SWITCH KEY BOARD		
S24			S31-2094-05	SLIDE SWITCH BEAT CANCELER		
D1 -18			HSS104	DIODE		
D1 -18			1SS133	DIODE		
D19 ,20			S5566B	DIODE		
D19 ,20			1SR139-100	DIODE		
D21 -34			HSS104	DIODE		
D21 -34			1SS133	DIODE		
D35 ,36			S5566B	DIODE		
D35 ,36			1SR139-100	DIODE		
D37			RBV-402LFA	DIODE		
D41 ,42			RB721Q	DIODE		
D44			HZS3.9N(B2)	ZENER DIODE		
D44			RD3.9ES(B2)	ZENER DIODE		
D45			HZS6.2N(B2)	ZENER DIODE		
D45			RD6.2ES(B2)	ZENER DIODE		
D46			HZS7.5S(B2)	ZENER DIODE		
D46			RD7.5JS(B2)	ZENER DIODE		
D47			HZS30N(B)	ZENER DIODE		
D47			RD30ES(B)	ZENER DIODE		
D48			HZS2.7N(B2)	ZENER DIODE		
D48			RD2.7ES(B2)	ZENER DIODE		
D49			HZS4.7N(B)	ZENER DIODE		
D49			RD4.7ES(B)	ZENER DIODE		
D50 ,51			HSS104	DIODE		
D50 ,51			1SS133	DIODE		
D52			HZS6.2N(B2)	ZENER DIODE		
D52			RD6.2ES(B2)	ZENER DIODE		
D53 -55			HSS104	DIODE		
D53 -55			1SS133	DIODE		
D204-211			HSS104	DIODE	KPMX	
D204-211			1SS133	DIODE	KPMX	
D204-212			HSS104	DIODE	TE	
D204-212			1SS133	DIODE	TE	
D213,214			HSS104	DIODE	KP	
D213,214			1SS133	DIODE	KP	
D216-222			HSS104	DIODE	M	
D216-222			1SS133	DIODE	M	
D217-222			HSS104	DIODE	KPXTE	
D217-222			1SS133	DIODE	KPXTE	
D301			HZS3.3N(B2)	ZENER DIODE		
D301			RD3.3ES(B2)	ZENER DIODE		
D302			HZS5.1N(B2)	ZENER DIODE		
D302			RD5.1ES(B2)	ZENER DIODE		
ED1		*	FIP10BRM7	FLUORESCENT INDICATOR TUBE		

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PARTS LIST

UD-300

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NO.11

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
IC1		*	CXP82324-104Q	IC(MICR@PR@CESS@R)		
IC2			HA12157NT	IC(D@LBY B/C NR)		
IC3			TC4052BP	IC(4CH MPX/DE-MPX)		
IC3			XRU4052B	IC(MULTIPLEXER/DEMULTIPLEXER)		
IC4			BA10393	IC(DUAL C@MPALAT@R)		
IC5			NJM4565D	IC(@P AMP X2)		
IC5			RC4565D	IC(@P AMP X2)		
IC6			PST529D	IC(SYSTEM RESET)		
IC7			UPC7808HF	IC(V@LTAGE REGULAT@R/ +8V)		
IC8 ,9			TD62554S	IC(4CH TRANSIST@R ARRAY)		
IC201		*	CXP50116-380Q	IC(MICR@PR@CESS@R)		
IC202			PST529D	IC(SYSTEM RESET)		
Q1 ,2			2SD2061	TRANSIST@R		
Q3			2SA999(E,F)	TRANSIST@R		
Q4			2SC1740S(Q,R)	TRANSIST@R		
Q4			2SC2785(F,E)	TRANSIST@R		
Q5			2SC3944A	TRANSIST@R		
Q6			2SA1175(F,E)	TRANSIST@R		
Q6			2SA933S(Q,R)	TRANSIST@R		
Q7 -10			2SC1740S(Q,R)	TRANSIST@R		
Q7 -10			2SC2785(F,E)	TRANSIST@R		
Q11 ,12			2SC2878(B)	TRANSIST@R		
Q13			DTA124ES	DIGITAL TRANSIST@R		
Q13			RN2203	DIGITAL TRANSIST@R		
Q14			DTC124ES	DIGITAL TRANSIST@R		
Q14			RN1203	DIGITAL TRANSIST@R		
Q15			DTA124ES	DIGITAL TRANSIST@R		
Q15			RN2203	DIGITAL TRANSIST@R		
Q16			DTC124ES	DIGITAL TRANSIST@R		
Q16			RN1203	DIGITAL TRANSIST@R		
Q17			DTA124ES	DIGITAL TRANSIST@R		
Q17			RN2203	DIGITAL TRANSIST@R		
Q18			DTC124ES	DIGITAL TRANSIST@R		
Q18			RN1203	DIGITAL TRANSIST@R		
Q19			2SC3940A	TRANSIST@R		
Q20 ,21			DTC124ES	DIGITAL TRANSIST@R		
Q20 ,21			RN1203	DIGITAL TRANSIST@R		
Q201,202			2SC1740S(Q,R)	TRANSIST@R		
Q201,202			2SC2785(F,E)	TRANSIST@R		
Q203			2SA1175(F,E)	TRANSIST@R	M	
Q203			2SA933S(Q,R)	TRANSIST@R	M	
Q301,302			2SD1302(S,T)	TRANSIST@R		
Q303			2SA1175(F,E)	TRANSIST@R		
Q303			2SA933S(Q,R)	TRANSIST@R		
Q304			2SC1740S(Q,R)	TRANSIST@R		
Q304			2SC2785(F,E)	TRANSIST@R		
CD PLAYER UNIT(X32-2220-10:K,P,0-21:M,0-71:X,2-71:T,E)						
C1 ,2			CK73FB1H103K	CHIP C 0.010UF K		
C4			CE04LW1C470M	ELECTR@ 47UF 16WV		
C5			CK73FB1H103K	CHIP C 0.010UF K		
C6			CK73FB1H473K	CHIP C 0.047UF K		
C7			CE04LW1H010M	ELECTR@ 1.0UF 50WV		
C8			CK73FB1H682K	CHIP C 6800PF K		
C9			CK73FB1H103K	CHIP C 0.010UF K		

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NO.12

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C10			CC73FSL1H330J	CHIP C 33PF J		
C11			CE04LW1V100M	ELECTR@ 10UF 35WV		
C12			CE04LW1H010M	ELECTR@ 1.0UF 50WV		
C13			CE04LW1HR33M	ELECTR@ 0.33UF 50WV		
C14			CE04LW1H010M	ELECTR@ 1.0UF 50WV		
C20			CC73FSL1H100D	CHIP C 10PF D		
C21 ,22			CK73FB1H123K	CHIP C 0.012UF K	KP	
C21 ,22			CK73FB1H822K	CHIP C 8200PF K	MXTE	
C23			CE04LW1H100M	ELECTR@ 10UF 50WV		
C24			CK73FB1H103K	CHIP C 0.010UF K		
C25			CE04LW1V100M	ELECTR@ 10UF 35WV		
C27			CK73FB1H473K	CHIP C 0.047UF K		
C28			CE04LW1H100M	ELECTR@ 10UF 50WV		
C29 -31			CK73FB1H103K	CHIP C 0.010UF K		
C32			CE04LW1A470M	ELECTR@ 47UF 10WV		
C33			CC73FCH1H270J	CHIP C 27PF J		
C34			CC73FCH1H220J	CHIP C 22PF J		
C35 -38			CC73FSL1H471J	CHIP C 47PF J		
C39			CE04LW1C470M	ELECTR@ 47UF 16WV		
C40			CK73FB1H223K	CHIP C 0.022UF K		
C41 ,42			CE04LW1H010M	ELECTR@ 1.0UF 50WV		
C45			CK73FB1H103K	CHIP C 0.010UF K		
C51 ,52			CE04LW1HR47M	ELECTR@ 0.47UF 50WV		
C53 ,54			CK73FB1H392K	CHIP C 3900PF K	M	
C66			CK73FB1H103K	CHIP C 0.010UF K		
C100			CE04LW1C470M	ELECTR@ 47UF 16WV		
C101-104			CK73FB1H223K	CHIP C 0.022UF K	TE	
C101,102			CK73FB1H223K	CHIP C 0.022UF K	KPMX	
C105			CK73FB1H473K	CHIP C 0.047UF K		
C106-108			CK73FB1H223K	CHIP C 0.022UF K	TE	
C109			CC73FSL1H101J	CHIP C 100PF J		
C110			CC73FSL1H100D	CHIP C 10PF D		
C170			CC73FSL1H101J	CHIP C 100PF J	TE	
C171			CC73FSL1H470J	CHIP C 47PF J	TE	
C501			CE04LW1C330M	ELECTR@ 33UF 16WV		
C502			CK73FB1H103K	CHIP C 0.010UF K		
C503			CC73FSL1H101J	CHIP C 100PF J		
C550			CE04LW1C330M	ELECTR@ 33UF 16WV		
C551			CK73FB1H333K	CHIP C 0.033UF K		
C552			CK73FB1H152K	CHIP C 1500PF K		
C553			CK73FB1H222K	CHIP C 2200PF K		
C554			CK73FB1H221K	CHIP C 220PF K		
C555,556			CE04LW1C330M	ELECTR@ 33UF 16WV		
C600			CE04HW1H010M	NP-ELEC 1.0UF 50WV		
C601,602			CE04LW1C330M	ELECTR@ 33UF 16WV		
C603			CK73FB1E104K	CHIP C 0.10UF K		
C604			CE04LW1V4R7M	ELECTR@ 4.7UF 35WV		
C605			CK73FB1E104K	CHIP C 0.10UF K		
C606			CC73FSL1H470J	CHIP C 47PF J	KPMX	
C607			CK73FB1H332K	CHIP C 3300PF K		
C608			CK73FB1H102K	CHIP C 1000PF K		
C609			CK73FB1H103K	CHIP C 0.010UF K		
C610			CK73FB1E104K	CHIP C 0.10UF K		
C611			CK73FB1E563K	CHIP C 0.056UF K		
C612			CK73FB1H561K	CHIP C 560PF K		

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NO.13

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
C613			CK73FB1H333K	CHIP C 0.033UF K		
C614			CE04LW1V100M	ELECTRO 10UF 35WV		
C615			CK73FB1H333K	CHIP C 0.033UF K		
C616			CE04HW1A220M	NP-ELEC 22UF 10WV		
C617,618			CK73FB1H103K	CHIP C 0.010UF K		
C619			CE04LW1HR47M	ELECTRO 0.47UF 50WV		
C620,621			CK73FB1H103K	CHIP C 0.010UF K		
C622			CE04LW0J221M	ELECTRO 220UF 6.3WV		
C623			CK73FB1H152K	CHIP C 1500PF K		
C624			CK73FB1E473K	CHIP C 0.047UF K		
C625			CE04LW0J221M	ELECTRO 220UF 6.3WV		
C626,627			CC73FCH1H390J	CHIP C 39PF J		
C628,629			CE04LW1V100M	ELECTRO 10UF 35WV		
C630			CK73FB1H103K	CHIP C 0.010UF K		
C631			CE04LW1C330M	ELECTRO 33UF 16WV		
C632,633			CE04HW1HR47M	NP-ELEC 0.47UF 50WV		
C634			CK73FB1H102K	CHIP C 1000PF K		
C636,637			CK73FB1H102K	CHIP C 1000PF K		
C638			CK73FB1E104K	CHIP C 0.10UF K		
C639			CK73FB1H103K	CHIP C 0.010UF K		
C640			CK73FB1H102K	CHIP C 1000PF K		
C641			CK73FB1E104K	CHIP C 0.10UF K		
C642			CK45FB1H222K	CERAMIC 2200PF K		
J1			E20-0321-05	LOCK TERMINAL BOARD ANTENNA	TE	
J1		*	E70-0016-05	LOCK TERMINAL BOARD ANTENNA	KPMX	
CF1 ,2			L72-0531-05	CERAMIC FILTER	KPMX	
CF1 ,2			L72-0536-05	CERAMIC FILTER	TE	
L3			L30-0498-05	FM IFT		
L5			L79-0125-05	LC FILTER	TE	
L7			L30-0467-05	AM IFT		
L11			L40-1021-14	SMALL FIXED INDUCTOR(1.0MH,K)		
L101			L40-1091-17	SMALL FIXED INDUCTOR		
L104		*	L39-1307-05	COMBINATION COIL	TE	
L105			L39-0192-05	COMBINATION COIL	KPMX	
L105		*	L39-1306-05	COMBINATION COIL	TE	
X1			L77-1122-05	CRYSTAL RESONATOR 7.2MHz		
X2			L78-0295-05	RESONATOR 19.000KHz		
X501			L77-1164-05	CRYSTAL RESONATOR 16.9344MHz		
X502			L78-0218-05	RESONATOR 4.19MHz		
VR1 ,2			R12-3686-05	TRIMMING POT.(22K) TUNE LEVEL		
VR3			R12-1619-05	TRIMMING POT.(2.2K) MPX SEPARA		
VR51,52			R12-3686-05	TRIMMING POT.(22K) TE,FE GAIN		
W1 -4			R92-0679-05	CHIP R 0 OHM		
W7 -15			R92-0670-05	CHIP R 0 OHM	KPMX	
W7 -8			R92-0670-05	CHIP R 0 OHM	TE	
W10 ,11			R92-0670-05	CHIP R 0 OHM	TE	
W16 ,17			R92-0670-05	CHIP R 0 OHM	TE	
W18			R92-0670-05	CHIP R 0 OHM	KPMX	
W19			R92-0679-05	CHIP R 0 OHM	M	
W20			R92-0670-05	CHIP R 0 OHM	MX	
W20 ,21			R92-0670-05	CHIP R 0 OHM	KP	
W22			R92-0670-05	CHIP R 0 OHM	M	
W23			R92-0670-05	CHIP R 0 OHM	X	
W24			R92-0670-05	CHIP R 0 OHM	TE	

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NO.14

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
W25 ,26			R92-0679-05	CHIP R 0 OHM		
W27 ,28			R92-0670-05	CHIP R 0 OHM		
W501-521			R92-0679-05	CHIP R 0 OHM		
S1			S31-2094-05	SLIDE SWITCH DE-EMPHASYS	M	
D1 ,2			MA110	DIODE		
D4 ,5			MA110	DIODE	TE	
D6 ,7			MA110	DIODE		
D102-106			MA110	DIODE	TE	
D501-504			MA110	DIODE		
D505		*	DTZ5.1A	ZENER DIODE		
D505			MA8051-M	ZENER DIODE		
D506-510			MA110	DIODE		
D511			DTZ3.9A	ZENER DIODE		
D511			MA8039	ZENER DIODE		
D512,513			MA110	DIODE		
IC1			LA1851N	IC(AM,FM TUNER)		
IC2			LC7218	IC(PLL SYNTHESIZER)		
IC51		*	UPD75216AGF-663	IC(MICROPROCESSOR)		
IC52			PST529D	IC(SYSTEM RESET)		
IC53		*	TA8409F	IC(MOTOR DRIVER)		
IC54			BA6296FP	IC(POWER DRIVER)		
IC55			CXA1372Q	IC(CD RF SERVO)		
IC56			CXD2500AQ	IC(SIGNAL PROCESSOR)		
IC57		*	TC9237BF	IC(D/A CONVERTER)		
IC58			TA2009F	IC(FILTER)		
Q1			2SC2413K	TRANSISTOR		
Q4			2SC2412K	TRANSISTOR	TE	
Q5			2SA1037K	TRANSISTOR		
Q7 ,8			2SC2412K	TRANSISTOR	M	
Q10			2SC3115(D27,D28	TRANSISTOR		
Q11			2SC2412K	TRANSISTOR		
Q101,102			2SC2412K	TRANSISTOR	TE	
Q103			2SA1037K	TRANSISTOR	KPMX	
Q103-105			2SA1037K	TRANSISTOR	TE	
Q106			2SC2412K	TRANSISTOR	TE	
Q501			2SA954(L,K)	TRANSISTOR		
Q502			DTA143TS	DIGITAL TRANSISTOR		
Q503			DTA124ES	DIGITAL TRANSISTOR		
DT1			W02-1041-15	FM FRONT-END ASSY	TE	
DT1			W02-1042-15	FM FRONT-END ASSY	KPMX	
CD MECHANISM ASS'Y(X92-1650-31:K,P,0-32:M,0-33:X,0-34:T,E)						
101	3A	*	A10-2879-11	CHASSIS		
104	2B		A11-0719-05	SUB CHASSIS		
107	1A	*	A11-0732-02	SUB CHASSIS		
115	1B		D10-2490-04	ROD		
116	3A		D10-3196-03	SLIDER		
117	1A		D10-3197-04	ROD		
118	2A		D13-0876-04	PULLEY GEAR		
119	2A		D13-0877-04	INTERMEDIATE GEAR		
120	2B		D13-0894-05	MOTOR GEAR		
121	1B		D13-0895-05	GEAR		
122	2B		D13-0896-05	GEAR		
123	2A		D13-0939-03	MAIN GEAR		

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NO.15

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
124	3A		D15-0309-04	PULLEY ASSY		
126	2A		D16-0301-05	SYNCRO BELT		
127	1A		D23-0265-03	RETAINER		
129	1B	*	E35-0296-05	FLAT CABLE 12P		
130	2B		G01-3409-04	INSULATOR SPRING FRONT		
131	2B		G01-3410-04	INSULATOR SPRING REAR		
133	2B		J02-1057-15	INSULATOR		
134	1A		J11-0164-03	CLAMPER		
135	2A		J99-0507-11	TRAY		
136	1A,2A		N09-1522-05	SET SCREW (3X8)		
137	1A,3A		N09-2720-05	TAPTITE SCREW (2.6X8)		
138	2A,2B		N09-2769-05	MACHINE SCREW (2.6X8)		
139	3A		N35-2005-46	BINDING HEAD MACHIN SCREW		
140	2B		N39-2025-46	PAN HEAD MACHIN SCREW		
141	2B		N89-2008-46	BINDING HEAD TAPTITE SCREW		
142	2B		S33-1022-05	LEVER SWITCH		
147	1A		T50-1054-04	YOKE		
148	1A		T99-0503-15	MAGNET		
DM	2B		A11-0733-05	DISK MOTOR ASSY		
FM	2B		T42-0532-05	FEED MOTOR		
LM	3A		T42-0531-05	LOADING MOTOR		
PU	1B		T25-0014-05	OPTICAL PICKUP HEAD (KSS-240A)		
CASSETTE MECMECHANISM ASS'Y(D40-1214-05:A,5-05:B)						
301	2C		A10-2922-08	HEAD CHASSIS CALKED ASSY		
302	1D		A11-0754-08	BASE CHASSIS ASSY		
305	1E		D01-0138-08	FLYWHEEL ASSY LEFT		
306	1E,2E		D01-0139-08	FLYWHEEL ASSY RIGHT		
308	2D		D10-3210-08	SHIFT LEVER		
309	2C		D10-3211-08	PLAY SHIFT LEVER		
310	2D		D10-3212-08	INTER LOCK LEVER		B
310	2C		D10-3220-08	INTER LOCK LEVER		A
311	2D		D10-3213-08	EJECT LEVER		B
311	1C		D10-3221-08	EJECT LEVER		A
312	1D		D10-3214-08	FR ARM		
313	1C		D10-3215-08	PLAY ARM		
314	1E		D10-3216-08	SHIFT SELECT LEVER		
315	2D		D10-3217-08	TRIGGER ARM		
316	2D		D10-3218-08	SELECT ARM		
317	1E		D10-3219-08	BRAKE ARM		
319	1D		D13-0965-08	CLUTCH GEAR		
320	1D		D13-0966-08	REW GEAR		
321	1D		D13-0967-08	FR GEAR		
322	1D,2D		D13-0968-08	REEL GEAR		
323	2E		D13-0970-08	PLAY CAM GEAR		
324	1C		D13-0974-08	PLAY GEAR ASSY		
325	2C		D13-0981-08	ROTATION GEAR		
326	2C		D13-0982-08	RETURN GEAR		
329	2D		D19-0270-18	REEL CAP		
330	1E		D19-0273-08	CLUTCH PULLEY ASSY		
332	2D	*	D23-0277-08	HOUSING ASSY RIGHT		
333	1C		D23-0270-08	HOUSING ASSY LEFT		
335	1E		E35-0264-08	MOTOR WIRE		
336	1E	*	E35-0396-08	FLAT WIRE 15P		
337	2E		E35-0394-08	HEAD WIRE 5P		B

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NO.16

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
337	2E	*	E35-0398-08	HEAD WIRE 3P		A
338	1E	*	E40-4244-05	PIN CONNECTOR		
340	2C		G01-3428-08	RETURN GEAR SPRING		
341	1D		G01-3429-08	REEL SPRING		
342	1E		G01-3431-08	CLUTCH ARM SPRING		
343	1C		G01-3432-08	PLAY ARM SPRING		
344	1E		G01-3433-08	SHIFT SELECT LEVER SPRING		
345	2E		G01-3434-08	TRIGGER ARM SPRING		
346	2D		G01-3435-08	SHIFT LEVER SPRING		
347	2C		G01-3436-08	HEAD CHASSIS SPRING		
348	2D		G01-3437-08	PINCH ROLLER ARM SPRING RIGHT		
349	1C		G01-3438-08	PINCH ROLLER ARM SPRING LEFT		
350	1E		G01-3439-08	BRAKE ARM SPRING		
351	2C		G01-3440-08	INTER LOCK LEVER SPRING RIGHT		B
351	2C		G01-3441-08	INTER LOCK LEVER SPRING LEFT		A
353	1D		G02-0913-08	PACK LOCK FLAT SPRING		
354	2C		G02-0994-08	AZIMUTH SPRING		
355	2C,2D		G11-2117-08	HEAD WIRE CLAMPER		
356	1D		G16-0780-08	REFLECT SEAL		
357	2C		G16-0786-08	INSULATING SHEET		
358	2C		J21-5789-08	HEAD PLATE ASSY		
360	2C		J31-0850-08	RETURN GEAR COLLAR		
361	1C,2D		J31-0851-08	EJECT LEVER COLLAR		
362	2D		J42-0183-08	REEL CAP BUSHING		
363	2C		J90-0679-08	TAPE GUIDE		
364	2C		J90-0680-08	CASSETTE GIDE		
365	1C,2D		N09-2870-08	SCREW M2.6X5		
366	2C,2D		N09-2871-08	SCREW M2X6		
367	2C		N09-2872-08	SCREW M1.7X8		
368	2C		N09-2873-08	SCREW M2X6		
369	2C		N09-2876-08	HEAD SCREW		
370	2C,2D		N09-2877-08	TAP TITE SCREW M2X4		
371	2C		N09-2883-08	AZIMUTH SCREW		
372	1D		N19-1224-08	FLAT WASHER /4.1X6.5X0.25		
373	1E		N19-1225-08	FLAT WASHER /2.1X4.0X0.25		
374	1D		N19-1285-08	FLAT WASHER /1.6X3.0X0.13		
375	2E		N19-1286-08	FLAT WASHER /2.3X4.0X0.25		
376	2C		N19-1287-08	FLAT WASHER /3.5X6.5X0.5		
377	1C		N19-1288-08	FLAT WASHER /1.65X5.0X0.5		
378	2D		N19-1289-08	FLAT WASHER /1.8X6.0X0.5		
379	1D		N35-2604-46	BINDING HEAD MACHINE SCREW		
380	2E	*	N09-2900-08	SCREW M2X6		
381	2E	*	N09-2901-08	SCREW M2X4		
385	1E		S74-0006-08	LEAF SWITCH (REC,METAL,Cr02)		
386	1E		S74-0007-08	LEAF SWITCH (PACK DETECT)		
388	2D		T94-0226-08	SOLENOID ASSY		
390	1E		W02-1130-08	ELECTRIC UNIT		
BM	1E		D16-0326-08	MAIN BELT		
PF	2D		D14-0341-08	PINCH ROLLER ASSY		
PR	2C		D14-0340-08	PINCH ROLLER ASSY		
MM	1D		T42-0599-08	DC MOTOR ASSY		
PH	2C		T31-0066-08	PLAYBACK HEAD		A
RPEH	2C		T39-0020-08	REC/PLAYBACK/ERASE HEAD		B
PH1	1E		NJL5165K	PHOTO REFLECTOR		

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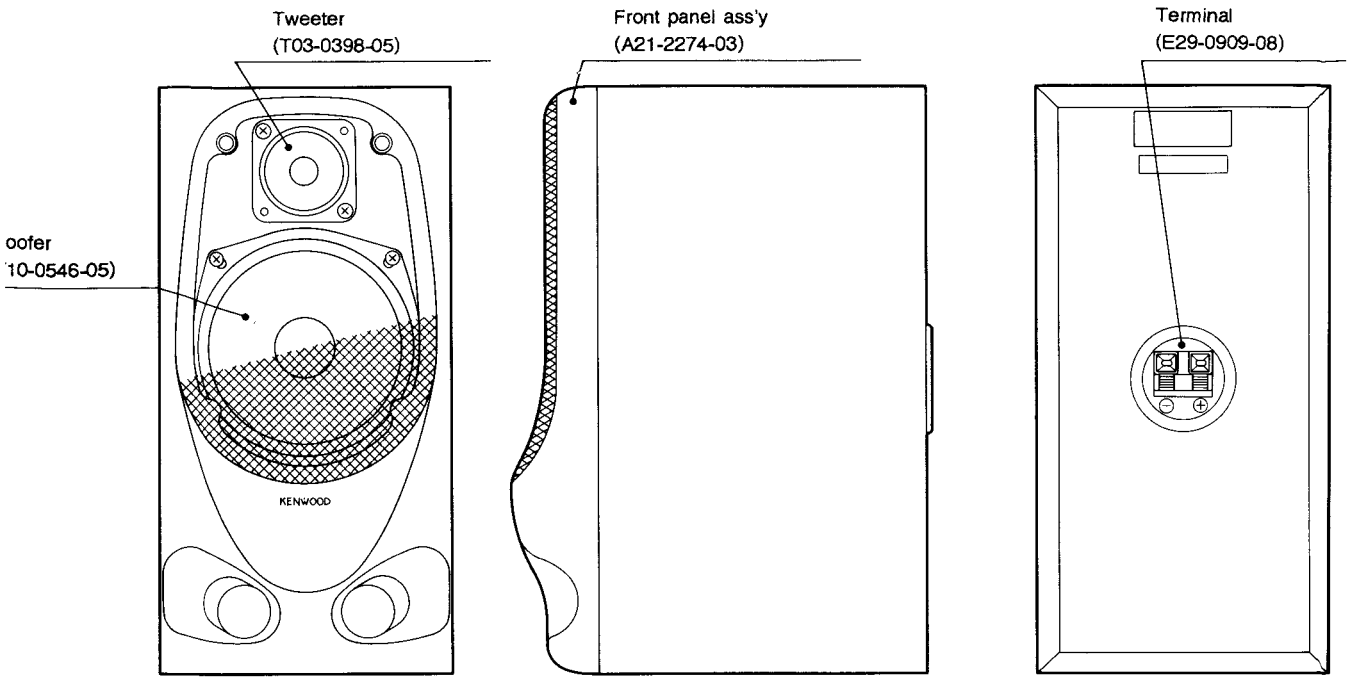
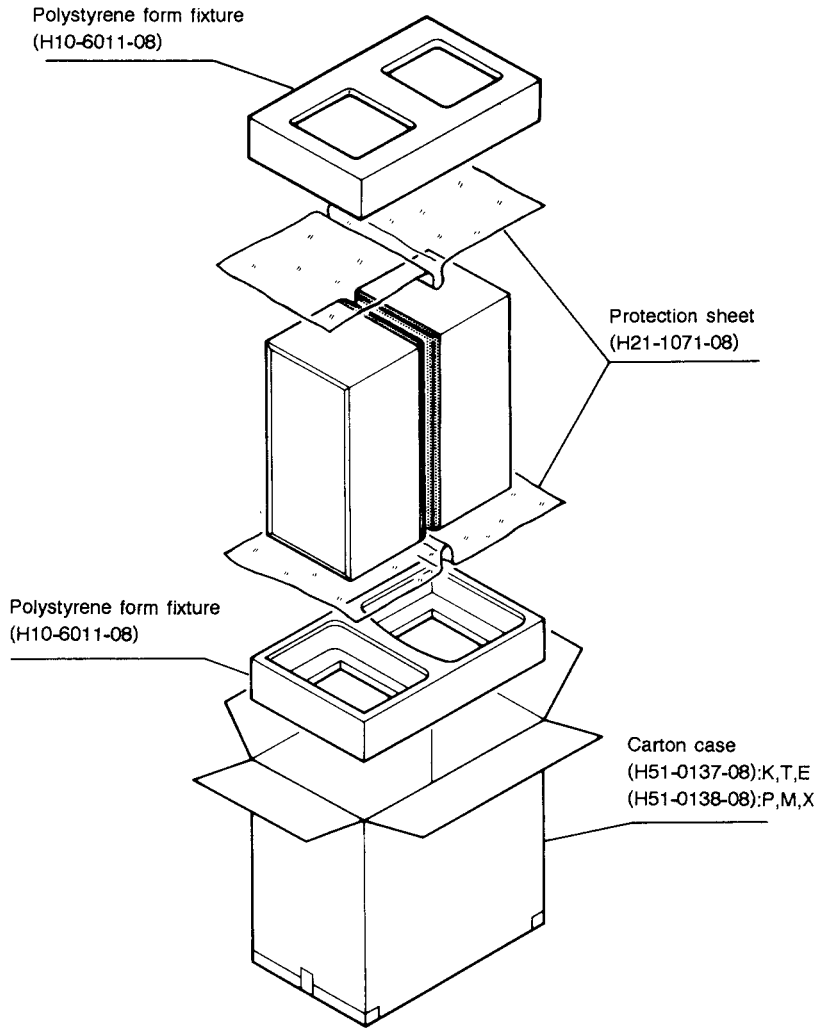
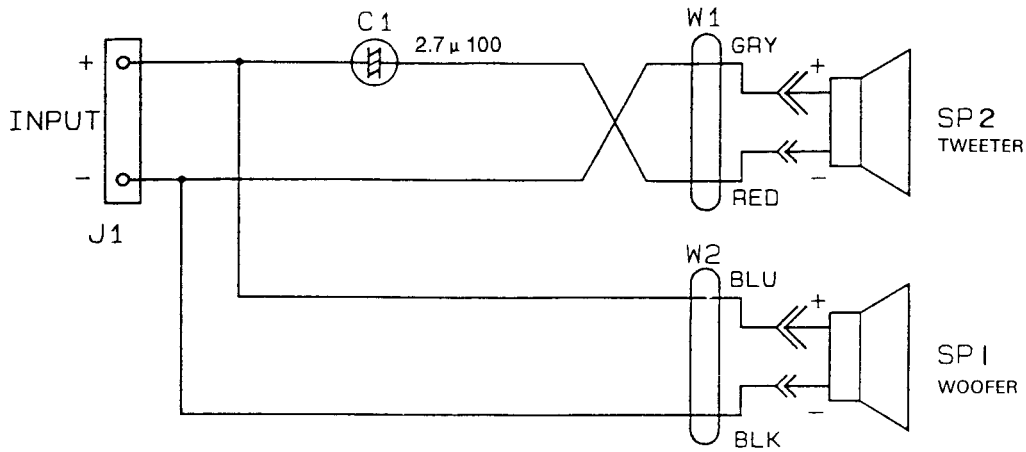
SPEAKER SYSTEM





UD-300

SPEAKER SYSTEM



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LS-A3						
-		*	A21-2274-03	FRONT PANEL ASSY		
-		*	E30-5120-08	OUTSIDE CONNECTING WIRE		
		*	H51-0137-08	CARTON CASE	KTE	
		*	H51-0138-08	CARTON CASE	PMX	
-		*	H10-6011-08	POLYSTYRENE FOAMED FIXTURE		
-		*	H21-1071-08	PROTECTION SHEET		
SP1		*	T10-0546-05	LOUDSPEAKER(WOOFER)		
SP2		*	T03-0398-05	LOUDSPEAKER(TWEETER)		
NETWORK ASSY (X21-5990-10)						
C1			C90-1098-05	NP-ELEC 2.7UF 100WV		
J1		*	E29-0909-08	INPUT TERMINAL		

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Specifications (For U.K. and Europe)

Amplifier/Graphic equalizer unit (A-A3)

Amplifier section

(IEC/NF) From 63 Hz to 12,500 Hz 0.7% T.H.D.
at 8 Ω ..... 25 W + 25 W
(DIN) 1 kHz, at 8 Ω ..... 25 W + 25 W
Total harmonic distortion at 1/2 rated power
(1 kHz, 8 Ω) 0.03%
Signal to noise ratio
AUX ..... 86 dB (IHF' 66)
Input sensitivity/Impedance
AUX ..... 200 mV/47 kΩ

Graphic equalizer section

Center frequency ..... 60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 15 kHz
Control range ..... ±10 dB

GENERAL

Power consumption ..... 85 W
Dimensions ..... W: 270 mm
H: 165 mm
D: 276 mm
Weight (Net) ..... 4.7 kg

Cassette deck/CD player/Tuner unit (X-A3L)

FM tuner section

Tuning frequency range ..... 87.5 MHz ~ 108 MHz
Usable sensitivity (DIN at 75 Ω)
MONO ..... 0.9 μV/10.2 dBf
STEREO ..... 28 μV/40.2 dBf
Total harmonic distortion (DIN at 1 kHz)
MONO ..... 0.3% (65.2 dBf input)
STEREO ..... 0.8% (65.2 dBf input)
Signal to noise ratio (DIN weighted at 1 kHz)
MONO ..... 69 dB (65.2 dBf input)
STEREO ..... 62 dB (65.2 dBf input)
Stereo separation (DIN)
1 kHz ..... 42 dB
6.3 kHz ..... 37 dB
Selectivity (DIN ±300 kHz) ..... 64 dB
Frequency response (30 Hz ~ 15 kHz)
..... +0.5 dB, –3.5 dB

MW tuner section

Tuning frequency range ..... 531 kHz ~ 1,602 kHz
Usable sensitivity ..... 20 μV (600 μV/m)
Signal to noise ratio
(at 30% mod. 1 mV input) ..... 47 dB

LW tuner section

Tuning frequency range ..... 153 kHz ~ 279 kHz
Usable sensitivity ..... 20 μV
Signal to noise ratio
(at 30% mod. 1 mV input) ..... 47 dB

CD player section

Refer to page 56.

Cassette Deck section

Refer to page 56.

GENERAL

Dimensions ..... W: 270 mm
H: 165 mm
D: 250 mm
Weight (Net) ..... 3.4 kg

UD-300

SPECIFICATIONS

Specifications (For U.S.A. and Canada)

Amplifier/Graphic equalizer unit (A-A3)

Amplifier section

Continuous rated power output

25 watts per channel minimum RMS, both channels driven, at 8 Ω 1 kHz with no more than 0.7% total harmonic distortion. (FTC)

Total harmonic distortion at 1/2 rated power
(1 kHz, 8 Ω) 0.1%
Signal to noise ratio
LINE (AUX) ..... 86 dB (IHF' 66)
Input sensitivity/Impedance
LINE (AUX) ..... 200 mV/47 kΩ

Graphic equalizer section

Center frequency ..... 60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 15 kHz
Control range ..... ±10 dB

GENERAL
Power consumption ..... 85 W
Dimensions ..... W: 270 mm (10-5/8")
H: 165 mm (6-1/2")
D: 276 mm (10-7/8")
Weight (Net) ..... 4.7 kg (10.36 lb)

Cassette deck/CD player/Tuner unit (X-A3)

FM tuner section

Tuning frequency range ..... 87.5 MHz ~ 108 MHz
Usable sensitivity (MONO at 75 Ω) ..... 1.2 μV/12.8 dBf
50 dB quieting sensitivity (at 75 Ω)
MONO ..... 1.8 μV/16.2 dBf
STEREO ..... 28 μV/40.2 dBf
Total harmonic distortion (at 1 kHz)
MONO ..... 0.4% (65 dBf input)
STEREO ..... 0.5% (65 dBf input)
Signal to noise ratio (at 1 kHz)
MONO ..... 78 dB (65 dBf input)
STEREO ..... 71 dB (65 dBf input)
74 dB (85 dBf input)
Stereo separation
1 kHz ..... 40 dB
Selectivity (±400 kHz) ..... 50 dB
Frequency response (30 Hz ~ 15 kHz)
..... +0.5 dB, –3.5 dB

AM tuner section

Tuning frequency range
10 kHz step ..... 530 kHz ~ 1,700 kHz
Usable sensitivity ..... 16 μV (500 μV/m)
Signal to noise ratio
(at 30% mod. 1 mV input) ..... 48 dB

CD player section

Refer to page 56.

Cassette deck section

Refer to page 56.

GENERAL
Dimensions ..... W: 270 mm (10-5/8")
H: 165 mm (6-1/2")
D: 250 mm (9-13/16")
Weight (Net) ..... 3.4 kg (7.5 lb)

SPECIFICATIONS

Specifications (For other countries)

Amplifier/Graphic equalizer unit (A-A3)

Amplifier section

Continuous rated power output

27 watts per channel minimum RMS, both channels driven, at 8 Ω 1 kHz with no more than 10% total harmonic distortion. (EIAJ)

(IHF' 66) From 60 Hz to 20 kHz, 1% T.H.D. at 8 Ω ..... 20 W + 20 W
Total harmonic distortion at 1/2 rated power
(1 kHz, 8 Ω) 0.1%
Signal to noise ratio
AUX ..... 86 dB (IHF' 66)
Input sensitivity/impedance
AUX ..... 200 mV/47 kΩ

Graphic equalizer section

Center frequency ..... 60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 15 kHz
Control range ..... ±10 dB

GENERAL
Power consumption ..... 85 W
Dimensions ..... W: 270 mm
H: 165 mm
D: 276 mm
Weight (Net) ..... 4.7 kg

Cassette deck/CD player/Tuner unit (X-A3)

FM tuner section

Tuning frequency range ..... 87.5 MHz ~ 108 MHz
Usable sensitivity (MONO at 75 Ω) ..... 1.2 μV/12.8 dBf
50 dB quieting sensitivity (at 75 Ω)
MONO ..... 1.8 μV/16.2 dBf
STEREO ..... 28 μV/40.2 dBf
Total harmonic distortion (at 1 kHz)
MONO ..... 0.4% (65 dBf input)
STEREO ..... 0.5% (65 dBf input)
Signal to noise ratio (at 1 kHz)
MONO ..... 78 dB (65 dBf input)
STEREO ..... 71 dB (65 dBf input)
74 dB (85 dBf input)
Stereo separation
1 kHz ..... 40 dB
Selectivity (±400 kHz) ..... 50 dB
Frequency response (30 Hz ~ 15 kHz)
..... +0.5 dB, –3.5 dB

AM tuner section

Tuning frequency range
9 kHz step ..... 531 kHz ~ 1,602 kHz
10 kHz step ..... 530 kHz ~ 1,610 kHz
Usable sensitivity ..... 16 μV (500 μV/m)
Signal noise ratio
(at 30% mod. 1 mV input) ..... 48 dB

CD player section

Refer to page 56.

Cassette deck section

Refer to page 56.

GENERAL
Dimensions ..... W: 270 mm
H: 165 mm
D: 250 mm
Weight (Net) ..... 3.4 kg

UD-300

SPECIFICATIONS

CD player section

Laser ..... **Semiconductor laser**
Playing rotation ..... **200 rpm ~ 500 rpm (CLV)**

Audio

Frequency response ..... **20 Hz ~ 20 kHz, ±1.5 dB**
Signal to noise ratio ..... **More than 90 dB**
Total harmonic distortion
..... **Less than 0.01% (at 1 kHz)**
Wow & flutter ..... **Unmeasurable Limit**

Speakers (LS-A3)

Enclosure ..... **Bass-reflex type**
Speaker configuration ..... **2 way system**
Impedance ..... **8 Ω**
Maximum input level ..... **45 W**
Output sound pressure ..... **88 dB/W, 1 m**
Frequency response ..... **50 Hz ~ 20 kHz**
Dimensions ..... **W: 165 mm (6-1/2 ")**
H: 330 mm (13 ")
D: 235 mm (9-1/4 ")
Weight (Net) ..... **3.7 kg (8.2 lb)**

Cassette deck section

Recording system ..... **AC bias (Frequency: 105 kHz)**
Heads
A DECK Playback heads **1**
B DECK Playback/recording heads **1**
Erasing heads **1**
Motor
A DECK **1**
B DECK **1**
Fast winding time ..... **Approx. 110 seconds (C-60 tape)**
Frequency response
Normal tape ..... **30 Hz to 18,000 Hz, ±3 dB**
CrO_2 tape ..... **30 Hz to 19,000 Hz, ±3 dB**
Signal to noise ratio
Dolby C NR ON ..... **72 dB**
Dolby B NR ON ..... **63 dB**
Dolby NR OFF ..... **53 dB**
Wow & flutter ..... **0.1% (W.R.M.S.)**

KENWOOD CORPORATION
Shionogi Shibuya Building, 17-5, 2-chome Shibuya, Shibuya-ku, Tokyo 150, Japan
KENWOOD U.S.A. CORPORATION
2201 East Dominguez Street, Long Beach, CA 90810,
550 Clark Drive, Mount Olive, NJ 07828, U.S.A.
KENWOOD ELECTRONICS CANADA INC.
P.O. BOX 1075, 959 Gana Court, Mississauga, Ontario, Canada L4T 4C2
TRIO-KENWOOD U.K. LIMITED
KENWOOD House, Dwight Road, Watford, Herts., WD1 8EB United Kingdom
KENWOOD ELECTRONICS BENELUX N.V.
Mechelsesteenweg 418 B-1930 Zaventem, Belgium
KENWOOD ELECTRONICS DEUTSCHLAND GMBH
Rembrücker-Str. 15, 6056 Heusenstamm, Germany
TRIO-KENWOOD FRANCE S.A.
13 Boulevard Ney, 75018 Paris, France
KENWOOD LINEAR S.p.A.
20125, MILANO-VIA ARBE, 50, ITALY
KENWOOD ELECTRONICS AUSTRALIA PTY. LTD. (INCORPORATED IN N.S.W.)
P.O. Box 504, 8 Figtree Drive, Australia Centre, Homebush, N.S.W. 2140, Australia
KENWOOD & LEE ELECTRONICS, LTD.
Wang Kee Building, 4th Floor, 34-37, Connaught Road, Central, Hong Kong